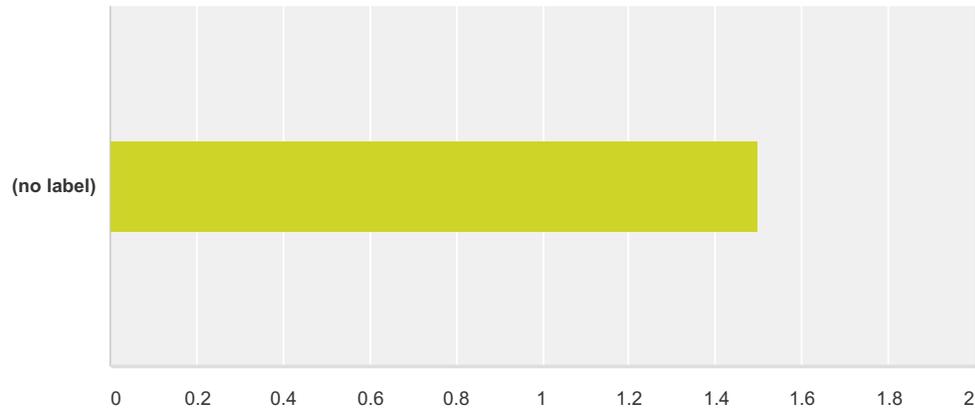


**Q3 The standards in this domain are developmentally appropriate.**

Answered: 32 Skipped: 222

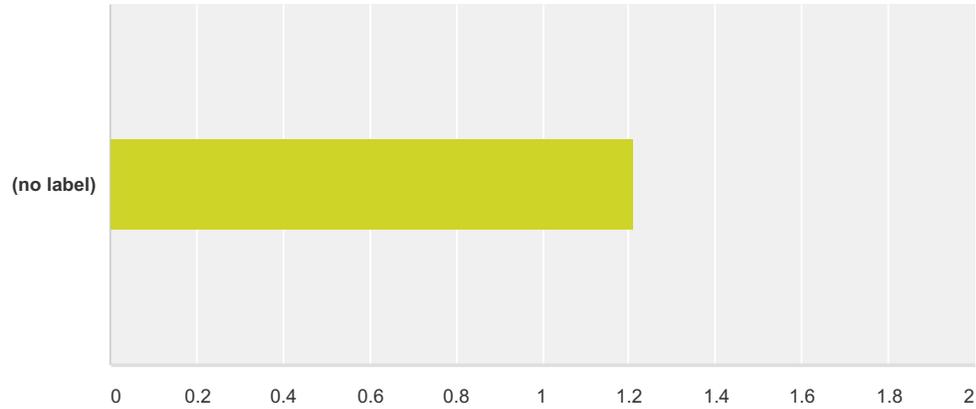


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	65.63% 21	18.75% 6	15.63% 5	0.00% 0	32	1.50

#	Suggested revisions for standards:	Date
1	Original: 7.RP.A.1 Compute unit rates, including those that involve complex fractions, with like or different units. Revised: 7.RP.A.1 Compute unit rates with like or different units. Rationale: Dealing with complex fractions unnecessarily convolutes the skill that we should be measuring in seventh grade. Fractions are often difficult for them to understand and there is no compelling reason why they must be able to work with complex fractions at this level.	12/1/2015 10:42 PM
2	Can't measure "understand". More specific verbs need to be used.	11/30/2015 10:05 AM
3	Number sense and operations - 6.NS.B.3 - Include multi-digit decimals to the standard to read "add, subtract, multiply, and divide multiple digit decimals"	11/30/2015 9:55 AM
4	6.RP.A3 has whole number in the current Standard In the Proposed it doesn't say whole numbers so do we do rational numbers.	11/17/2015 4:15 PM
5	6.RP.A.3 Convert measurement units within and between 2 systems of measurements while solving problems. I do not understand why this would be included in the sixth grade unit. When would they every be required to do this at their age? It would require a lot of time for them to understand and be able to master this skill. This needs to be introduced to them, but not be mastered for a state test.	11/17/2015 3:57 PM
6	Students do not need to know how to convert between two systems of measurement. Students only need to convert between the same systems.	11/13/2015 11:00 AM
7	6.RP.A.3 - bar models? Does this mean Singapore math bar models or some other type of bar model? More information is needed.	11/10/2015 10:21 AM
8	Although "percent increase and decrease" and "percent error" were in the Common Core Standards, is this actually applicable to a 7th grader? Not only is it not relevant to them personally in "real life", this involves complex formulas, in which students have limited exposure.	11/4/2015 8:37 AM
9	Define what a tape diagram is.	10/27/2015 8:46 AM

**Q4 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 29 Skipped: 225

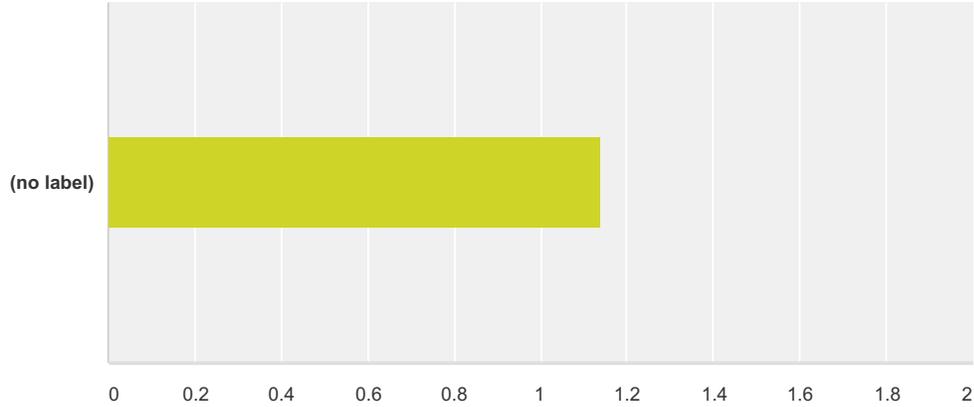


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	79.31% 23	20.69% 6	0.00% 0	0.00% 0	29	1.21

#	Suggested revisions for standards:	Date
1	Take out cross conversions.	11/13/2015 11:00 AM
2	Students often struggle with the variable changes. For example the "k" (constant) becomes "m" (slope) when working with linear equations. The "k" (constant) is also the "r" (as in (1,r)) for unit rate. Consistency and/or connection with regards to the variables would prove beneficial to student success.	11/13/2015 10:43 AM
3	I would like to see on 7 RP A2 C (1,r) I have been teaching (1,k) and speaking with high school teachers using k seems to be good for introducing the concept of proportionality. k is used again in high school but expanded upon. I would like the variable to consistent in 7th grade to give the students a solid foundation for introducing the concept.	11/10/2015 10:28 AM
4	We understand the concepts of constant of proportionality and unit rate (1,k) is introductory at this level, but used again in 8th grade as slope (m) and again in high school as (k). We are concerned that using both the variables r and k will be confusing for the students. Is there a specific one to use?	11/10/2015 10:28 AM

**Q5 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 29 Skipped: 225

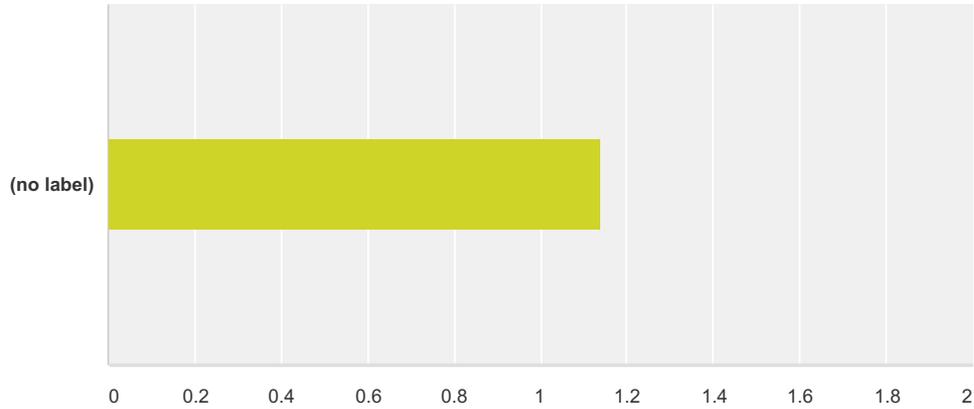


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	86.21% 25	13.79% 4	0.00% 0	0.00% 0	29	1.14

#	Suggested revisions for standards:	Date
1	The rigorous path of high expectations is more than some students are able to do. Brain development varies from student to student. Some students are not able to think as abstractly as others. Year to year, I am seeing larger gaps between struggling students and proficient students. Smaller districts are not equipped to have accelerated classes. Teachers are working hard to help students develop individually, but it can be very difficult when student competency ranges from grade 3 to grade 10 or 11 (in a 7th grade math class).	11/13/2015 10:43 AM

**Q6 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 28 Skipped: 226

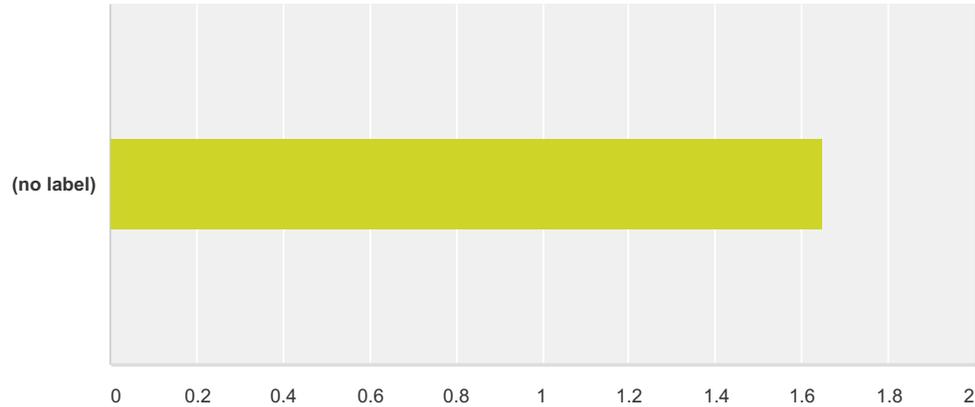


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	85.71% 24	14.29% 4	0.00% 0	0.00% 0	28	1.14

#	Suggested revisions for standards:	Date
1	You can not measure "understand".	11/30/2015 10:05 AM
2	Standards can be assessed. An issue is that while state assessment is being tested more and more using computers, teachers and students do not have ample opportunity to utilize computers for assessment. This is creating a concern that results could be skewed due to a lack of experience of being tested on a computer.	11/13/2015 10:43 AM

**Q7 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 31 Skipped: 223



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.84% 17	25.81% 8	19.35% 6	0.00% 0	31	1.65

#	Suggested revisions for standards:	Date
1	7.RP.A.2 - need edit on "if y x" is a constant. I believe it should say "if y/x" is a constant.	12/2/2015 10:54 AM
2	6.EE1.A.1 I would separate this into two standards and not one. They are really totally different objectives. 6.EE1.A.2 Why would you use the word "letters" instead of "variables"? Is this the first time they have seen a variable?? And, on part d, I would take out "(letters)". It's somewhat an insult to not use the correct terminology to math teachers. They should know what a variable is. 6.EE1.B.6 Again, take out "letters".	11/30/2015 4:47 PM
3	The removal of examples in the 6th grade curriculum does not allow the educator or parents to fully understand the expectation. Please add the examples from the current Missouri learning standards where appropriate. I would recommend examples on 6.RP.A1 and 6.RP.2,	11/30/2015 9:55 AM
4	As an educator, it is important to see an example of what the clear expectation is for the standard. If we are no longer including an example with the standard; then will there be a separate document with examples of each standard?	11/18/2015 4:15 PM
5	I like how the current standards have examples. The examples help with understanding the standards.	11/17/2015 4:15 PM
6	I like how the current standards give examples of what is expected. adding those would clarify expectations. 6.RP.A.3 a. current standard says "relating quantities with whole-number measurements" but is left out of proposed. does this mean it will no longer be whole number measurements?	11/17/2015 4:14 PM
7	The new standards are easier to understand than the previous ones. TAKE out the examples and use only the description.	11/13/2015 11:00 AM
8	Will parents understand?	11/13/2015 10:41 AM
9	6.RP.A.3 - I'm not sure if most educators and/or parents would understand the strategies of tape diagrams, bar models, double number line diagrams.	11/10/2015 10:21 AM
10	Better explanation of models to use. Bar models...many different kinds... But, maybe you are just suggesting... not very clear. Maybe it would be better to just have two lists: need to use and suggested to use list.	11/10/2015 10:17 AM

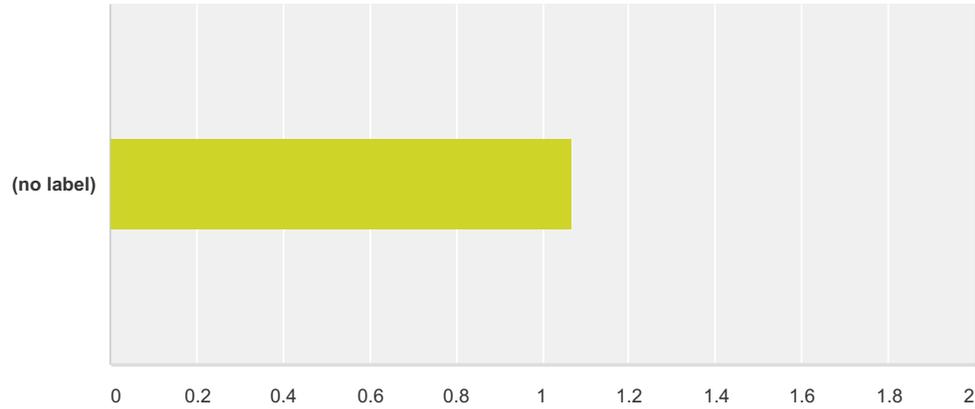
## HB1490 Work Group - Mathematics 6-12

11	6.RP.A.1 as "verbal statements." No examples are provided and MO teachers are often confused about exactly what expressions are important for students to understand. Example: $\frac{1}{4}$ is often read as "one over four." The original example in CCSS emphasizes the important language: "for every" 7.RP.A.1 The word "complex" needs to be clarified because that could be interpreted as "large numbers," "unfriendly numbers," or decimals within fractions. Recommend an example similar to 7.RP.1 in CCSS.	10/31/2015 5:08 PM
12	explain tape diagram	10/27/2015 8:46 AM

Ratios and Proportional Relationships (RP)  
Grades 6-8

**Q8 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 29 Skipped: 225

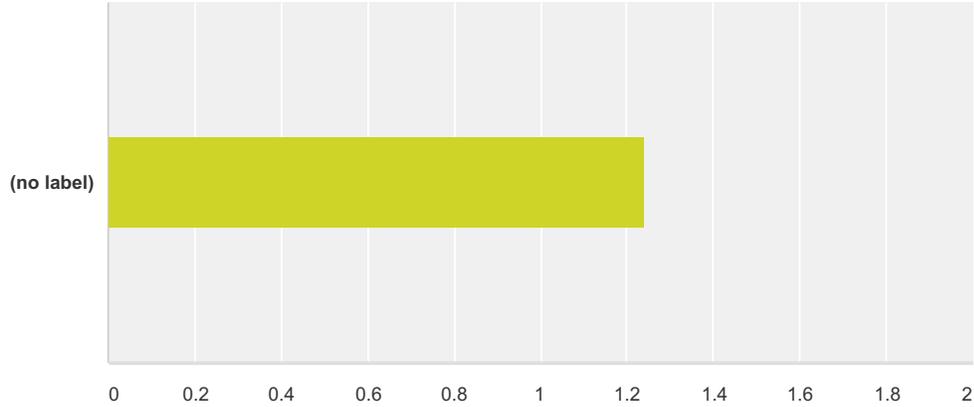


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	93.10% 27	6.90% 2	0.00% 0	0.00% 0	29	1.07

#	Suggested revisions for standards:	Date
	There are no responses.	

**Q9 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 29 Skipped: 225



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	82.76% 24	10.34% 3	6.90% 2	0.00% 0	29	1.24

#	Suggested revisions for standards:	Date
1	Do we need to add a standard that addresses comparing rational numbers using symbols? For example $-3/4 < -1/8$ ? I would think students at the level should be able to compare rational numbers and need all the practice using fractions that they can possibly get.	11/30/2015 4:47 PM
2	Number sense and operations - 6.NS.B.3 - Include multi-digit decimals to the standard to read "add, subtract, multiply, and divide multiple digit decimals"	11/30/2015 9:55 AM
3	7RPA1: Suggestions - Add context; why need a unit rate. Comments - if you want this standard to include ratios it may not be understood that unit rates include ratios depending on the person.*Examples	11/18/2015 4:15 PM

**Q10 Overall comments regarding the proposed standards for Ratios and Proportional Relationships (RP) (Grades 6-8):**

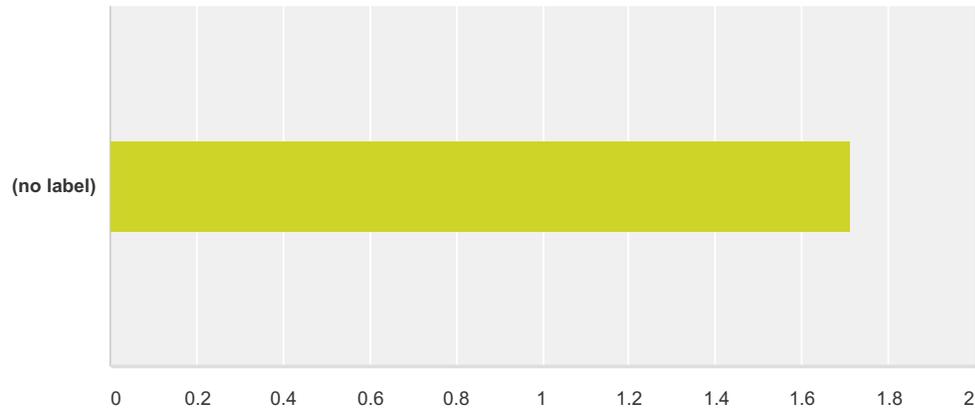
Answered: 15 Skipped: 239

#	Responses	Date
1	Number sense and operations - 6.NS.B.3 - Include multi-digit decimals to the standard to read "add, subtract, multiply, and divide multiple digit decimals" The removal of examples in the 6th grade curriculum does not allow the educator or parents to fully understand the expectation. Please add the examples from the current Missouri learning standards where appropriate. I would recommend examples on 6.RP.A1 and 6.RP.2, Can't measure "understand". More specific verbs need to be used. The examples are very helpful and will help teachers specifically want needs to be covered. Standards asks 6th grade students to graph on a number line but in 7th grade the students are to represent on a number line. The language should be the same for both grades. Standard 6.DSP.A.1 needs to include the example of what is and what is not a statistical question, as the current standard does. 7.GM.A.2/7.GM.A.3 are much clearer and uses Tier 3 vocabulary.	12/2/2015 1:00 PM
2	I appreciate why some of the examples were removed to allow for brevity in the document. However, I feel the examples help to clarify the intent of the standard.	12/2/2015 10:54 AM
3	Very well outlined and easy to follow.	12/1/2015 7:15 PM
4	I know the workgroups came together to just work on their specific grade levels/subjects, but did ALL of the subjects come together for one grade level to see the load that was added to the school year? Did the workgroups take into consideration that the teachers have been writing curriculum to the current standards and they will VERY QUICKLY have to update/revise the curriculum to the new standards? Most schools just purchased new books/materials to match the current standards and that was thousands of dollars that they may not be able to use anymore. Missouri needs some consistency in education, and I think we are headed there - but in the meantime, there are frustrated teachers, administrators, and parents who are tired of going back and forth, changing, adding, updating... I appreciate the time each work group put into developing our new standards - I know it took a lot of your time and effort. I hope that you all read and evaluate every comment that is presented during this comment period to make our standards the best they can be.	11/30/2015 1:32 PM
5	In places the new standards are more clear, but in others, the old standards give more examples, which is helpful in the classroom.	11/30/2015 10:06 AM
6	The examples are very helpful and will help teachers specifically want needs to be covered.	11/30/2015 10:05 AM
7	Opinion of two 7th grade math teachers and a math instructional coach.	11/18/2015 4:15 PM
8	6th grade teacher	11/17/2015 4:15 PM
9	I am a 6th grade teacher	11/17/2015 4:14 PM
10	Please do not change the wording to include terminology that is more difficult to understand. These standards are clear, concise, and very easy to read. Much more user friendly than the previous version. Perhaps creating a SEPARATE glossary of key terms used or even a separate column for examples and definitions of terms could be used to clarify and guide educators towards the expectations of the standard. Do not include them in the same box as the proposed standards. The old standards did this and it was difficult to read and filter through.	11/13/2015 10:18 AM
11	The new language is much cleaner and easier to understand.	11/11/2015 2:22 PM
12	I think these standards are easy to read and understand for the most part. I think these standards are also able to be understood by the students. The students are the one who need to hear what our goals are and the direction of the instruction most often. The students need to be able to understand what they are being asked to be able to do in order to be successful.	11/10/2015 10:21 AM
13	These standards are appropriate. I appreciate the effort to keep the coding similar to what we already use.	11/3/2015 9:46 AM
14	As a teacher, I would like the standards to be numbered such that they are all readily identifiable with CCSS so I am not spending hours trying to match them up on shared resources.	10/31/2015 5:08 PM
15	I like that the k-5 and 6-12 standards are in a similar format. For buildings that span 5-8 having two formats like in in English - it is very difficult to align things.	10/30/2015 12:32 PM

Number Sense and Operations (NS) Grades 6-8

**Q12 The standards in this domain are developmentally appropriate.**

Answered: 31 Skipped: 223



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	51.61% 16	29.03% 9	16.13% 5	3.23% 1	31	1.71

#	Suggested revisions for standards:	Date
1	Too difficult for many students who have not mastered skills in previous levels. We "cover" skill instead of "master" skills.	12/2/2015 3:08 PM
2	6.NS.C.5 Use positive and negative RATIONAL numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. 6.NS.C.8 Do we really need "thirds" as benchmarks? I think halves are good enough at this age. In addition, how is the new 6.NS.C.8 related to the old 6.NS.C.8? They don't even look like the same standard?	11/30/2015 4:49 PM
3	In 7th grade the term "represent" is used when referring to placing numbers on a number line or coordinate plane. However, in 6th grade and 8th grade the term "graph" is used. For consistency sake, the 7th grade standard needs to be changed to "graph" (standard 7.NS.A.1) On multiple standards (one example is 6.NS.C.5) examples should be added for the real world contexts, as was the case in the old standards. This is extremely important and valuable to the classroom teacher. This happens at all grade levels. More information/examples are needed.	11/30/2015 10:20 AM
4	Number sense and operations - 6.NS.B.3 - Include multi-digit decimals to the standard to read "add, subtract, multiply, and divide multiple digit decimals" 7.NS.A.1 - f - Interpret sums and differences of rational numbers by describing real world contexts. The wording is confusing and I think that it would be better written as "numbers in real world contexts"	11/30/2015 10:06 AM
5	Where do the students learn to graph in the coordinate plane? 5th grade only uses the 1st quadrant and then in 6th they are expected to do polygons. This used one grade level up in the GLE's. 6th grade did quadrant 1 and 7th grade did all 4 quadrants. Graphing is a difficult thing in all 4 quadrants for 6th graders because they haven't dealt with negative numbers much.	11/30/2015 9:57 AM
6	6.NS.A.1 If students fully understand how to write and solve a division of fractions problems, I do not see the need for them to have to model visually the fractions. Most students at this age know how to do the division of a fraction, but when presented a model, they started getting confused. I don't not feel that they should be assessed on modeling, but yet should be assessed on how to divide fraction. I think it should be left to them on how they choice to work the problem.	11/20/2015 9:12 AM
7	Operations with Scientific Notation are useless. Scientific Notation is challenging enough with negative exponents (the first time these kids have ever seen this), operations is mind-boggling and irrelevant with anything they can relate to right now. This is more appropriate at the high school level.	11/2/2015 1:35 PM

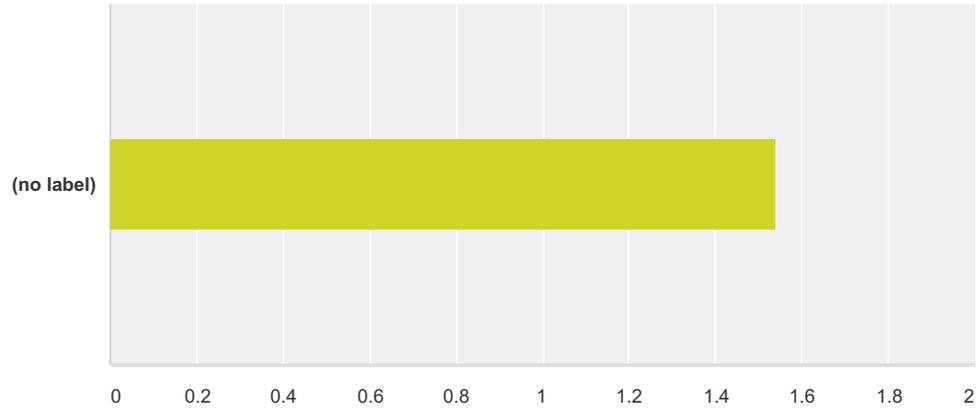
## HB1490 Work Group - Mathematics 6-12

8	<p>NS standards present an opportunity to clarify the importance of "like terms" (common denominator and same place value) when adding and subtracting while using standard algorithms. Similarly there is an opportunity here to specify the role of place value in using standard algorithms. I believe these details could give MO students and advantage with algebraic like terms and scientific notation. Recommend: 6.NS.B.2 Divide multi-digit whole numbers WITH UNDERSTANDING OF THE ROLE OF PLACE VALUE 6.NS.B.3 Add and subtract decimals, UNDERSTANDING THAT JUST AS WE ADD FRACTIONS WITH SAME DENOMINATORS, WE ADD DECIMAL NUMBERS BY COMBINING SAME DECIMAL PLACES.</p>	10/31/2015 5:41 PM
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Number Sense and  
Operations (NS)  
Grades 6-8

**Q13 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 28 Skipped: 226



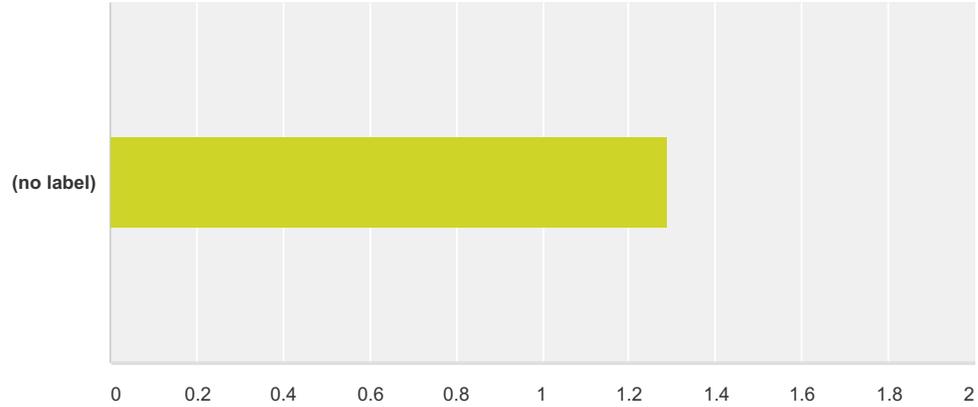
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	60.71% 17	25.00% 7	14.29% 4	0.00% 0	28	1.54

#	Suggested revisions for standards:	Date
1	The K-5 standards include a great note on Fluency. 6-12 Standards do not use the word fluent... Noticed this in 6.NS.B.3	12/2/2015 2:04 PM
2	operations involving negative numbers need to be added into 6th grade standards. for students to understand and solve single operation equations as well as using the distributive property, they need the basis of integer operations.	11/17/2015 4:55 PM
3	I really liked the addition of 6.NS.C.8. Generating equivalent representations between fractions, decimals and percents was missing before.	11/2/2015 2:24 PM
4	We missed an opportunity to develop coherence for addition/subtraction multiplication/division with all types of numbers.	10/31/2015 5:41 PM
5	Include how many digits the problems will include What does multi-digit mean? 2 digit, 3 digit, 4 digit?	10/27/2015 8:50 AM

Number Sense and  
Operations (NS) Grades  
6-8

**Q14 The standards set a rigorous path of  
high expectations for students at each  
grade level.**

Answered: 28 Skipped: 226



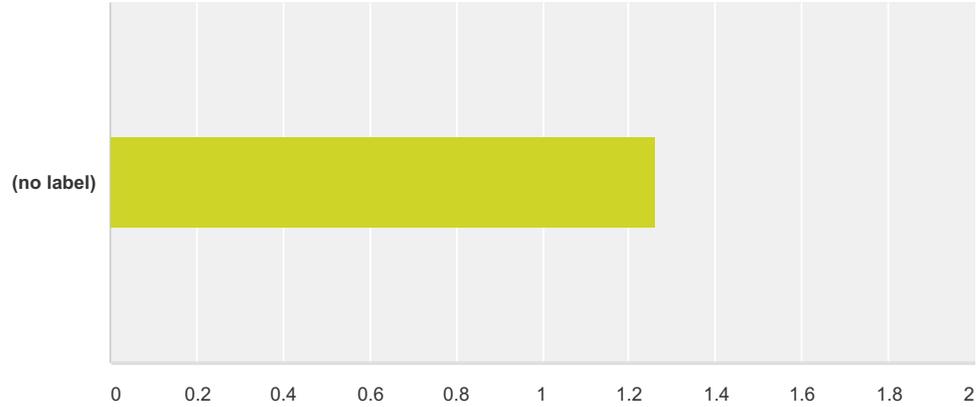
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	78.57% 22	14.29% 4	7.14% 2	0.00% 0	28	1.29

#	Suggested revisions for standards:	Date
1	Too rigorous.	11/2/2015 1:35 PM

Number Sense and Operations (NS) Grades 6-8

**Q15 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 27 Skipped: 227



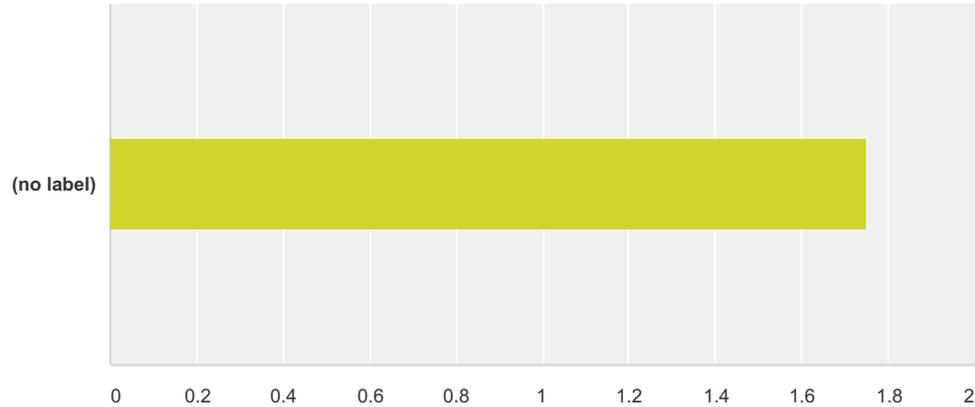
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	81.48% 22	14.81% 4	0.00% 0	3.70% 1	27	1.26

#	Suggested revisions for standards:	Date
1	Assessments are too difficult because of the pace we are suppose to teach so we can "cover" everything.	12/2/2015 3:08 PM

Number Sense and  
Operations (NS) Grades  
6-8

**Q16 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 28 Skipped: 226



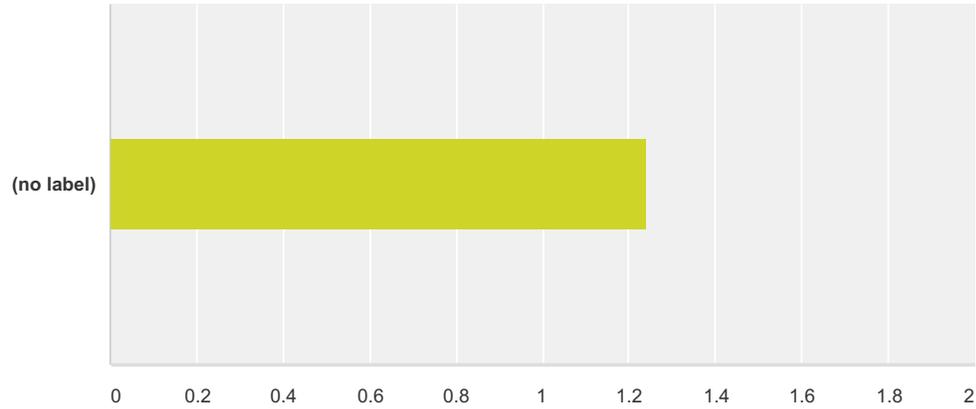
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	53.57% 15	25.00% 7	14.29% 4	7.14% 2	28	1.75

#	Suggested revisions for standards:	Date
1	No!!! Many parents cannot help with Math.	12/2/2015 3:08 PM
2	We think 8.NS.A.2 should say, 8.NS.A.2 Use rational approximations of irrational numbers. a. Estimate irrational numbers, including expressions using irrational numbers. b. Compare irrational numbers, including expressions using irrational numbers. c. Locate irrational number approximations on a number line.	12/2/2015 2:04 PM
3	6.NS.C.6 The way it's written is too vague. Bring back a and b from the original standards. 6.NS.C.7 You should take it back to the way it was written in the original standards. I had no idea what you were talking about and had to read the original standard to get it.	11/30/2015 4:49 PM
4		11/30/2015 10:06 AM
5	I like having the examples that the CCSS has under certain standards. I think that makes it easier for everyone to understand exactly what each standard means.	11/30/2015 9:57 AM
6	We need examples in the Standards!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Can different algorithms be used. Not clear	11/17/2015 4:44 PM
7	We missed an opportunity to explain to parents and educations that operations: addition/subtraction multiplication/division are consistent with all types of numbers.	10/31/2015 5:41 PM
8	NS. A. Know that there are numbers that are not rational, and approximate them by rational numbers. Revision: Worded funny. How about... Know that there are numbers that are not rational and be able to approximate them by comparing them to rational numbers.	10/30/2015 1:29 PM
9	define multi digit How many places do you calculate in decimal problems	10/27/2015 8:50 AM

Number Sense and Operations (NS) Grades 6-8

**Q17 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 25 Skipped: 229



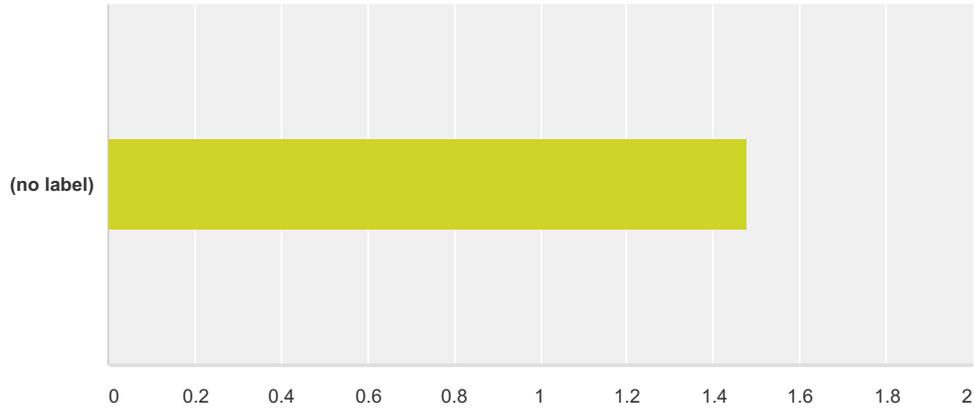
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	76.00% 19	24.00% 6	0.00% 0	0.00% 0	25	1.24

#	Suggested revisions for standards:	Date
1	Addition/subtraction of like terms span algebraic, rational, and complex numbers (with an imaginary component). Emphasizing those connections could bind retention with sense making.	10/31/2015 5:41 PM

Number Sense and  
Operations (NS) Grades  
6-8

**Q18 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 27 Skipped: 227



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	70.37% 19	11.11% 3	18.52% 5	0.00% 0	27	1.48

#	Suggested revisions for standards:	Date
1	7.NS.A.1 (part e) We think this needs to have the word "context" added in.	12/2/2015 2:04 PM
2	7NSA3 should be included in 7NSA2 and 7NSA1 to give students a purpose to learn the standard! Then take 7NSA3 out. 7NSA1E: Is this just about procedure? Suggestions - The standard is written in a way that it focuses on a process/procedure rather than understanding whats happening in the problem (we need context/real life). Difference between looking at a number line without relating it to anything.	11/18/2015 4:45 PM
3	see above	11/17/2015 4:55 PM
4	interpret absolute value as magnitude	10/27/2015 8:50 AM

**Q19 Overall comments regarding the  
proposed standards for Number Sense and  
Operations (NS) (Grades 6-8):**

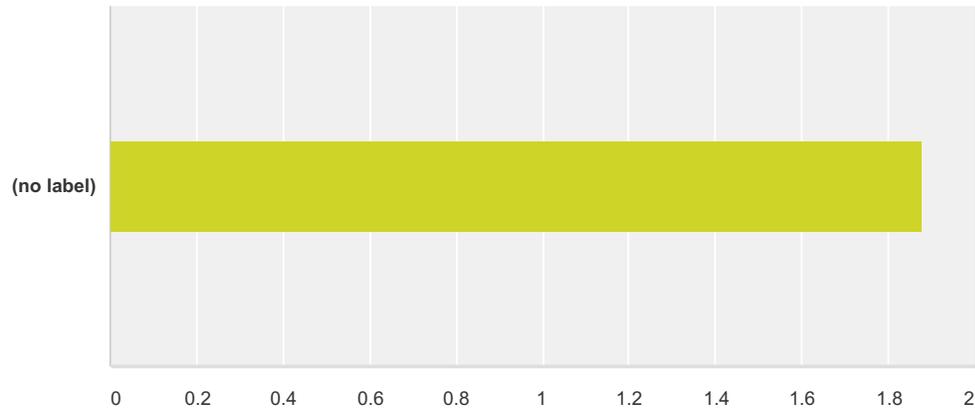
Answered: 12 Skipped: 242

#	Responses	Date
1	These standards were reviewed by an instructional math coach and teachers. The more context added to content when teaching the better.	12/2/2015 2:04 PM
2	The standards in this domain seem to be stated more clearly and hence, easier to understand. 6.NS.C.6 - I definitely agree with moving the coordinate plane from this domain to the Geometry domain. This movement will help to reinforce integers and see their use in other domains.	12/2/2015 12:36 PM
3	In the standards, additional examples are needed in the proposed column. Many examples are given in the current standards, and this is very helpful to teachers when planning lessons and writing curriculum.	11/30/2015 10:20 AM
4	I am wondering where the CCSS 6.NS.C.8 has been moved to. When do the students learn how to graph in all 4 quadrants of the coordinate plane? In 5th grade they only learn the 1st quadrant. The next time they graph in the coordinate plane is in 6.GM.A.3 when they immediately jump to drawing polygons, given the coordinates for the vertices. Graphing is very difficult for 6th grade because they have not dealt with negative numbers much. It is a constant struggle. I have also looked at the proposed standards for 7th and 8th grade, and there isn't any graphing in coordinate plane mentioned. We can't teach this concept early and then not touch it again until HS. This makes the HS teachers have to stop teaching their standards and reteach graphing.	11/30/2015 9:57 AM
5	Love the inclusion of fractions, decimals, and integers with 7NSA1 and 7NSA2 This is the opinion of two 7th grade math teachers and one math instructional coach.	11/18/2015 4:45 PM
6	I am a 6th grade teacher	11/17/2015 4:55 PM
7	6th grade math teachers.	11/17/2015 4:44 PM
8	I find the standards are less wordy and easier to follow. Most examples have been taken out which adds to the clarity; however, it would be nice to have a tab that will take teachers to examples if needed. The overall reason for (2s) as opposed to (1s) is due to the fact that some expectations are going to be very challenging to some students.	11/13/2015 10:59 AM
9	Please do not change the wording to include terminology that is more difficult to understand. These standards are clear, concise, and very easy to read. Much more user friendly than the previous version. Perhaps creating a SEPARATE glossary of key terms used or even a separate column for examples and definitions of terms could be used to clarify and guide educators towards the expectations of the standard. Do not include them in the same box as the proposed standards. The old standards did this and it was difficult to read and filter through.	11/13/2015 10:20 AM
10	The proposed standards are more concise and easier to understand. 7RPA1 not really different. Everything in the current is more in the proposed and more detailed. 7RPA2 gives you more detail on examples and how to teach it and real world samples. For example, 7NSA2 is short and goes to the point of what the standards are all about. 7NSA2 d is more of the old part and is missing applying the properties of mathematics on the new one. 7NSA3 are the same. The common core included the examples and not the new ones. 7GMA1 the same. 7GMA2 - missing construct, appears to have more emphasis on tools, focused more on triangles and quads. The proposed standard is more detailed and less vague. 7GMA3 using better vocabulary words. The B portion are exactly the same. 7GMB4 is more detailed and about relationships. 7GMB5 are the same. 7GMB6 what is the meaning of related measures? Cylinders are new. 7EEA1 most are the exact same and the standards are broken down and more outlined. 7EE4 is more outlined and more detailed.	11/11/2015 2:55 PM
11	This unit is very long and encompasses a lot of information. It would be helpful to have logical breaks included for new teachers. So students can be tested/quizzed at periodic times and then have one all encompassing test.	11/10/2015 10:21 AM
12	Introduction and comparing/ordering numbers in scientific notation is fine, but operations with them are unnecessary.	11/2/2015 1:35 PM

Expressions, Equations and Inequalities (EEI)  
Grades 6-8

**Q21 The standards in this domain are developmentally appropriate.**

Answered: 26 Skipped: 228



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	53.85% 14	7.69% 2	34.62% 9	3.85% 1	26	1.88

#	Suggested revisions for standards:	Date
1	Original: 7.EE1.A.1 Apply properties of operations (i.e. commutative, associative, distributive) to simplify and to factor linear algebraic expressions with rational coefficients Revised: 7.EE1.A.1 Apply properties of operations (i.e. commutative, associative, distributive) to simplify linear algebraic expressions with rational coefficients. Rationale: Many seventh grade students are not developmentally ready to grasp the distributive property and to apply it to factoring linear expressions.	12/1/2015 10:51 PM
2	8.EE1.A.3 and 8.EE1.A.4 As a Chemistry teacher and middle school math teacher, I believe "approximate how many times larger one is than the other" in 8.EE1.A3 is not developmentally appropriate. I work with Chemistry students (grades 11-12) who see scientific notation numbers and use them in calculations frequently, it is age appropriate for them to do so. 8th grade students will not need to apply this skill and most are not developmentally ready. I strongly believe at the 8th grade level students should be able to write numbers with scientific notation that are very small (negative exponent) and very large (positive exponent) but comparing the numbers is not developmentally appropriate. In 8.EE1.A.4 the standard of "Use scientific notation to solve real-world and mathematical problems" is going far beyond being developmentally appropriate. Again, I teach this all the time and have found MOST 8th grade students grasp the idea of very large and very small numbers having an abbreviation we call scientific notation. Moving beyond to operations with scientific notation and topics that are more science oriented where context is essential causes much confusion and frustration on the part of the student. A FEW students are able to grasp it, but I wonder to what purpose? I teach high school chemistry (my school is small so I feel fortunate to teach both Chemistry and Middle School Math) and all I want them to come to me knowing is how to write very large and very small numbers in scientific notation. Introducing operations with scientific notation in middle school results in the majority of students frustrated and thinking they can't master this skill. In education we are defeating ourselves by introducing topics TOO EARLY and our students get the mindset they are "bad at math"; when actually they are just not developmentally ready for the concept. I USE scientific notation all the time in my Chemistry class and I teach 8th grade math; I strongly urge this domain be revised. Also, 8.EE1.C.8d "including methods of substitution and elimination" is not developmentally appropriate. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
3	6.EE1.B.7 Why do we not allow negatives? Also, isn't it more important to introduce integer operations at this grade level than it is to introduce Pre-Algebra topics? If the kids can't use integers and fractions they might as well forget about success in Algebra.	11/30/2015 4:52 PM

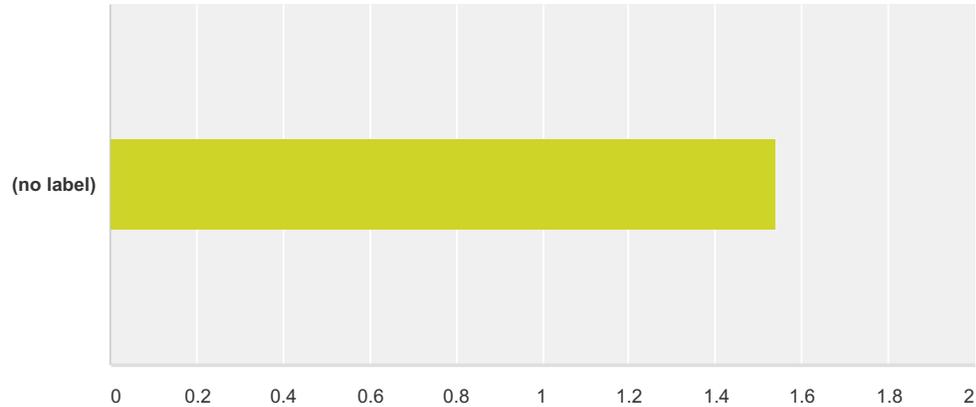
## HB1490 Work Group - Mathematics 6-12

4	Writing equations in 6th grade is very difficult. We are teaching the students something abstract and many have problems just trying to solve equations, let alone writing them. When solving, I am telling them we have to think opposites to solve for the variable but then we have to completely switch gears again to write the equations. I do not feel this is developmentally appropriate for 6th grade. Writing expressions is appropriate because they do not have to think backward and opposite.	11/30/2015 10:04 AM
5	6.EE1.A.3 Identify and generate equivalent algebraic expressions using mathematical properties and applying properties of operations i.e., combining like terms, commutative property, associative property, distributive property.	11/17/2015 4:11 PM
6	A typical sixth grader is not necessarily developmentally ready for some of the abstract concepts presented in this unit. When a depth of understanding is what we are striving to achieve, are we frustrating and overwhelming these students when they aren't even ready? I think we may be creating more math anxiety and a general dislike of "algebra" when we present things they aren't ready for developmentally.	11/10/2015 10:27 AM
7	Some of the material is difficult for an 11/12 year old brain to understand. Perhaps some of this information could wait until the mature a bit, but I understand there is a lot of information for the upper grades.	11/10/2015 10:26 AM
8	8.EE1.C.8 - Too advanced for 8th grade!	11/4/2015 9:30 AM
9	8.EE1.C.8 This standard covers students being able to analyze and solve systems of linear equations. Students struggle to understand solving equations with one variable; solving systems is developmentally over their head and should be removed immediately from the 8th grade standards. Our 8th grade math department has taught this standard for 2 years in a row with little to no success.	11/2/2015 3:00 PM
10	Systems of Equations...not necessary in 8th grade. Maybe by graphing, but substitution and elimination are hard enough for Algebra students; why are we wanting/needng 8th graders to do this? They need more time just graphing $y=mx+b$ . They've never seen this before and systems takes it to a whole new level of confusion.	11/2/2015 1:39 PM
11	coefficient and constant questions 6th grade may not be ready for	10/27/2015 8:53 AM

Expressions,  
Equations and  
Inequalities (EEI)  
Grades 6-8

**Q22 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 24 Skipped: 230

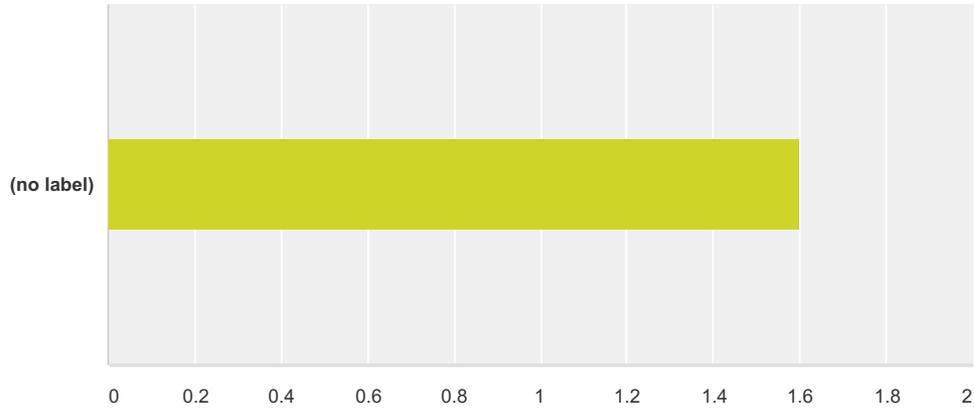


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	66.67% 16	16.67% 4	12.50% 3	4.17% 1	24	1.54

#	Suggested revisions for standards:	Date
1	8.EE1.A.3 and 8.EE1.A.4 I did not see any standards building up to scientific notation in the 8th grade. I looked through the 6th and 7th grade standards and was unable to locate any references to scientific notation. I have taught middle school math and Algebra 1 for more than 10 years and in 7th grade scientific notation with very large numbers was introduced and in 8th grade the student added how to write very small numbers using scientific notation. In Algebra 1, the student learned how perform operations (all numbers in scientific notation) as an application of the Associative Property. Each year they built upon their knowledge and by the time they reached my Chemistry class they were ready. This standard is not coherent, it is not introduced in 6th or 7th grade (unless I missed seeing it). To move from an introduction to scientific notation to being able to conceptualize it and perform calculations is too much in one year. I am also certified and teach Chemistry, the scientific notation makes sense because they are using it. Going beyond an introduction in scientific notation is doing the job of the science teacher, and as a science teacher I want that job. I teach students how to perform operations with scientific notation, identify significant digits, do dimensional analysis and other math related skills which all have APPLICATION to the discipline. The standards listed at the beginning are not coherent through and across all grade levels. Also, 8.EE1.C.8d "including methods of substitution and elimination" is not coherent. Students are asked to make leaps from mastering graphing a line to working with systems of equations. It is a great introduction to systems of equations to have students graph two lines and determine solutions, however manipulating the terms by doing substitution and elimination as well is too much at one time. It lacks space vs mass pedagogy. Students need more time to process. The advanced 8th grade math students will not be in this course, they will be taking the accelerated track or be in Algebra 1. With this standard it isn't a matter of it being coherent, it is a matter of taking it too far in 8th grade.	12/1/2015 6:06 PM
2	In 6th grade the language for inequalities and applying the inequality to a number line 6.EE1.B.8 b is written "Graph solutions of such inequalities on a number line" on 7.NS.A.1.b the language is "represent addition and subtraction on a horizontal or vertical number line" I think the language should be consistent with using the term graphing.	11/30/2015 10:14 AM
3	8.EE1.C.8	11/4/2015 9:30 AM
4	Again, I feel like the standards make a great progression, they just gotoo far in the standard 8.EE1.C.8	11/2/2015 3:00 PM
5	I really liked that linear inequalities was added (8.EE1.C.7). There was a gap between 7th grade and Algebra 1 before. I also liked the addition of the elimination method in standard 8.EE1.C.8.	11/2/2015 2:34 PM

### Q23 The standards set a rigorous path of high expectations for students at each grade level.

Answered: 25 Skipped: 229



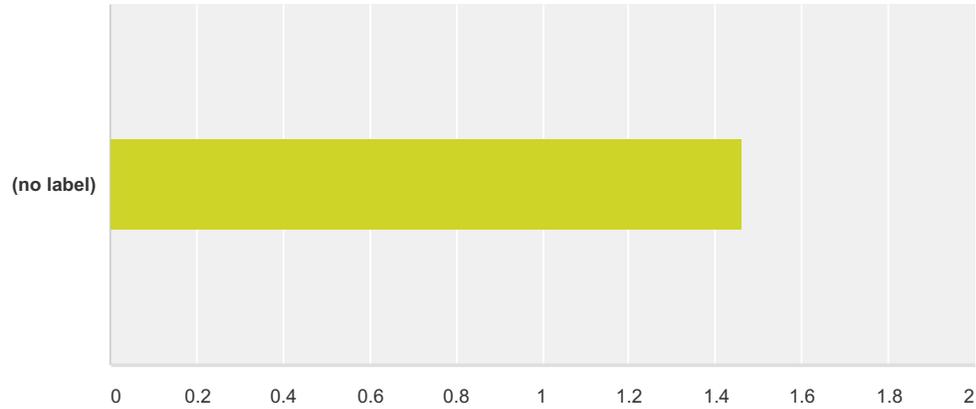
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	64.00% 16	16.00% 4	16.00% 4	4.00% 1	25	1.60

#	Suggested revisions for standards:	Date
1	8.EE1.A.3 and 8.EE1.A.4 are not rigorous for an 8th grader, they are developmentally inappropriate. The only part I agree with is "Express very large and very small quantities in scientific notation". Beyond that it is just torture for most students. I have seen it. I teach 8th grade math and Chemistry (I have said on each survey response because I am unsure how survey responses are viewed) and have done so for more than 10 years. Most students are not developmentally ready in 8th grade for this topic, especially when you consider most advanced 8th grade students are not taking 8th grade math; they will be in Alg 1 or an the accelerated course. Also, 8.EE1.C.8d "including methods of substitution and elimination" is not developmentally appropriate. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
2	These standards are definitely rigorous, but don't always feel appropriate for 6th graders developmentally.	11/10/2015 10:27 AM
3	8.EE1.C.8	11/4/2015 9:30 AM
4	Too rigorous.	11/2/2015 1:39 PM

Expressions, Equations  
and Inequalities (EEI)  
Grades 6-8

**Q24 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 24 Skipped: 230



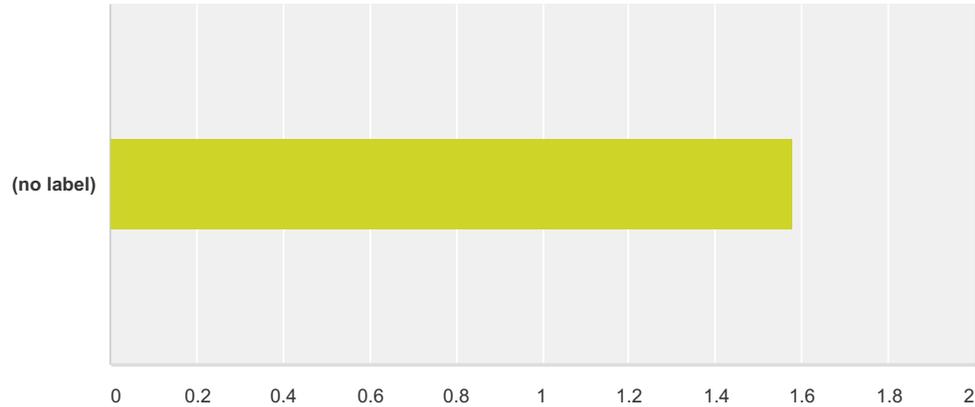
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	70.83% 17	16.67% 4	8.33% 2	4.17% 1	24	1.46

#	Suggested revisions for standards:	Date
1	8.EE1.A.3 and 8.EE1.A.4 can be assessed but I strongly feel it is not in the best interest of the student's academic growth to assess beyond "express very large and very small quantities in scientific notation". Also, 8.EE1.C.8d "including methods of substitution and elimination" could be assessed, but I don't think it should be. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
2	8.EE1.C.8	11/4/2015 9:30 AM

Expressions, Equations  
and Inequalities (EEI)  
Grades 6-8

**Q25 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 24 Skipped: 230



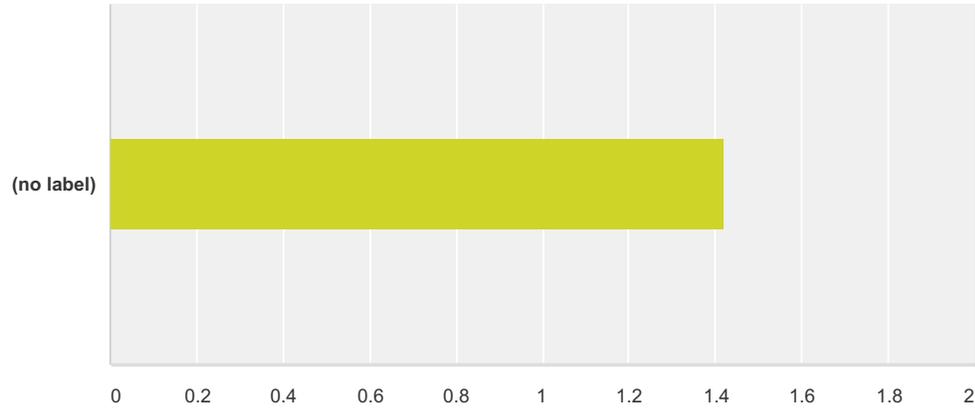
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	58.33% 14	29.17% 7	8.33% 2	4.17% 1	24	1.58

#	Suggested revisions for standards:	Date
1	Some of the academic language would be very difficult to explain to parents, but it would be difficult to rewrite them any other way.	12/1/2015 7:20 PM
2	8.EE1.A.3 and 8.EE1.A.4 As a math/chemistry teacher the standards listed above are understandable, but not justifiable or explainable to parents and other stakeholders. There is enough to do in math, why go in depth on a biology/chemistry skill with no context to help students make sense of it? Also, 8.EE1.C.8d "including methods of substitution and elimination" is understandable but not explainable to parents or even to myself as an Algebra teacher. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
3	6.EE1.A.1 This needs to be divided into two standards. 6.EE1.A.2 Take out the word "letters" and change it to "variables" - in part d. as well.	11/30/2015 4:52 PM
4	Standards asks 6th grade students to graph on a number line but in 7th grade the students are to represent on a number line. The language should be the same for both grades.	11/30/2015 10:16 AM
5	Examples would clarify the DOK and specifics of the standards verbage.	11/17/2015 4:11 PM
6	8.EE1.C.8	11/4/2015 9:30 AM

Expressions,  
Equations and  
Inequalities (EEI)  
Grades 6-8

**Q26 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 24 Skipped: 230



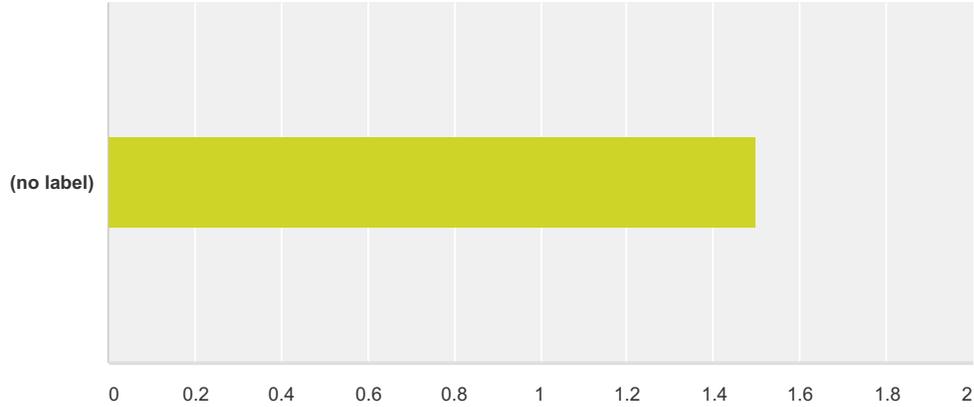
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	75.00% 18	12.50% 3	8.33% 2	4.17% 1	24	1.42

#	Suggested revisions for standards:	Date
1	8.EE1.A.3 and 8.EE1.A.4 In 8th grade, understanding how to "express very large and very small quantities in scientific notation" is necessary content to prepare for future course work which will lead to college and/or career readiness. The rest of the standard listed is not developmentally appropriate and is also unnecessary. Working with scientific notation in context of studying biology, chemistry, or physics is developmentally appropriate. Also, 8.EE1.C.8d "including methods of substitution and elimination" is needed, but not in the 8th grade. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
2	8.EE1. C.8	11/4/2015 9:30 AM

Expressions,  
Equations and  
Inequalities (EEI)  
Grades 6-8

**Q27 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 22 Skipped: 232



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	72.73% 16	9.09% 2	13.64% 3	4.55% 1	22	1.50

#	Suggested revisions for standards:	Date
1	New suggestion for Revision of 8.EE1.A.2 8.EE1.A.2. Investigate concepts of square roots and cube roots. a. Recognize and use square root and cube root symbols. b. Use square roots and cube roots in equations of the form $x^2 = p$ and $x^3 = +/-p$ , where p is a positive rational number. c. Evaluate square roots of perfect squares less than or equal to 625 and cube roots of perfect cubes less than or equal to 1000. d. Use interpolation to estimate squares and square roots that fall between the known benchmarks. e. Recognize that square roots of non-perfect squares are irrational; i.e. explain why numbers are or are not perfect squares using area models.	12/2/2015 2:09 PM
2	I am in agreement with all except most of 8.EE1.A.3 and 8.EE1.A.4. In 8th grade, understanding how to "express very large and very small quantities in scientific notation" is necessary content and the full breadth of what is needed and developmentally appropriate. Also, 8.EE1.C.8d "including methods of substitution and elimination" is not developmentally appropriate. It is accurate but the student is not ready for the complete breadth of the topic. It is too abstract. Solving by graphing is more concrete and a great introduction to systems of equations. Remember, the advanced math students are not probably not taking this course in 8th grade. It is a topic advanced math students are ready for, but most students are not.	12/1/2015 6:06 PM
3	In Grade 8, I don't think it is necessary to specify that students explain why numbers are not perfect squares using area models. I think any reasonable explanation should be acceptable, not just ones using area models.	11/6/2015 10:19 AM
4	8.EE1.C.8	11/4/2015 9:30 AM

Expressions,  
Equations and  
Inequalities (EEI)  
Grades 6-8

**Q28 Overall comments regarding the  
proposed standards for Expressions,  
Equations and Inequalities (EEI) (Grades 6-  
8):**

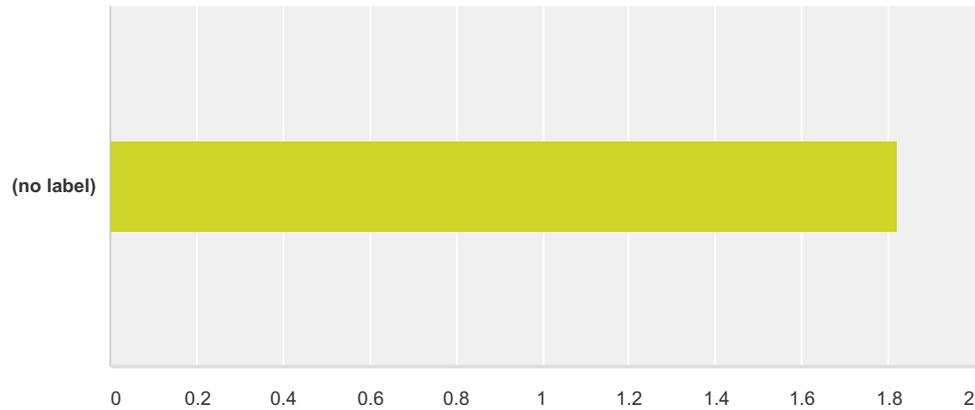
Answered: 8 Skipped: 246

#	Responses	Date
1	These standards were reviewed by 2 instructional math coaches and 8th grade math teachers.	12/2/2015 2:09 PM
2	Reviewed by Katherine Morrison 8th Grade Algebra I. Years of service: 10	11/17/2015 4:11 PM
3	Some of the content in this area will be highly challenging for students who have not developed the ability to think abstractly. My experience is that many students can graph a linear equation using a process; however, struggle with the connection between writing, graphing, interpreting, and applying a linear equation simultaneously. Assessment results will be skewed based on the fact that many students never have an opportunity to practice answering and/or showing work on a computer, but then are assessed on the state standards using computer technology. Some students can answer questions on paper, but have not learned how to use the tools within the assessment program to accurately and efficiently respond.	11/13/2015 11:04 AM
4	Please do not change the wording to include terminology that is more difficult to understand. These standards are clear, concise, and very easy to read. Much more user friendly than the previous version. Perhaps creating a SEPARATE glossary of key terms used or even a separate column for examples and definitions of terms could be used to clarify and guide educators towards the expectations of the standard. Do not include them in the same box as the proposed standards. The old standards did this and it was difficult to read and filter through.	11/13/2015 10:22 AM
5	The proposed standards have more student friendly language. However, they are losing some of the important academic vocabulary that ups the rigor of the standards.	11/11/2015 3:07 PM
6	Please consider this adjustment.	11/4/2015 9:30 AM
7	I like the clarification in the standards, as well as the inclusion of inequalities in the domain.	11/3/2015 9:48 AM
8	Systems by graphing...okay. But substitution and elimination...not until Algebra 1.	11/2/2015 1:39 PM

Geometry and  
Measurement (GM)  
Grades 6-8

**Q30 The standards in this domain are developmentally appropriate.**

Answered: 22 Skipped: 232



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.55% 12	9.09% 2	36.36% 8	0.00% 0	22	1.82

#	Suggested revisions for standards:	Date
1	7th Grade 7.GM.A.2 Why are we not constructing circles (with a compass) when we are pushing for circle graphs. Move circle graphs to 7th grade...not 6th. 7th graders learn about about percentages and circles. 6th graders do not have enough knowledge to "create a circle" graph correctly. I realize this is partly DSP... 7.GM.B.4 has students exploring TONS about a circle. Let's teach them to "draw them also". 7.GM.B.6 Why isn't spheres in the standard?	12/2/2015 2:14 PM
2	Remove surface area and volume of pyramids in 7th grade (7.GM.B.6). Pyramids are taught in 8th grade (8.GM.C.9).	12/2/2015 1:27 PM
3	Original: 7.GM.A.1 Solve problems involving scale drawings of real-world objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale. Revision: 7.GM.A.1 Solve problems involving scale drawings of real-world objects and geometric figures, including computing actual lengths and areas from a scale drawing. Rationale: Seventh graders are being asked to do more than necessary to actually change a scaled drawing to a different scale. This is unnecessarily difficult and developmentally inappropriate for this age student.	12/1/2015 11:17 PM
4	6.GM.A.2 I would not use the formula $V = Bh$ at this level. Just stick to $V = lwh$ . My high school geometry kids get this confused so I see no reason to confuse the 6th graders when they are only doing rectangular prisms anyway.	11/30/2015 4:54 PM
5	When do the students learn how to graph in all 4 quadrants. This is not listed in 5th or 6th grade. But they are expected to be able to graph polygons with given coordinates. This is not an easy concept for 6th graders as they are not familiar with negative numbers.	11/30/2015 10:13 AM
6	makes sense to combine measurement and geometry	11/17/2015 10:40 AM
7	Moving transformations to 6th grade would improve the curriculum for 8th grade. Maybe shift some volume standards up a grade. Transformations are a more elementary concept. We are asking 8th graders to understanding slope-intercept form and the pythagorean theorem then take a step down to do transformations. Seems like going backwards instead of forward.	11/4/2015 12:43 PM
8	8.GM.A.4 - Too advanced for 8th grade!	11/4/2015 9:29 AM
9	8.GM.A.4 is developmentally inappropriate for 8th grade students. I believe this cluster should contain translations, reflections, rotations, and dilations. It should not contain proving similarity and congruence through a series of transformation.	11/2/2015 3:02 PM

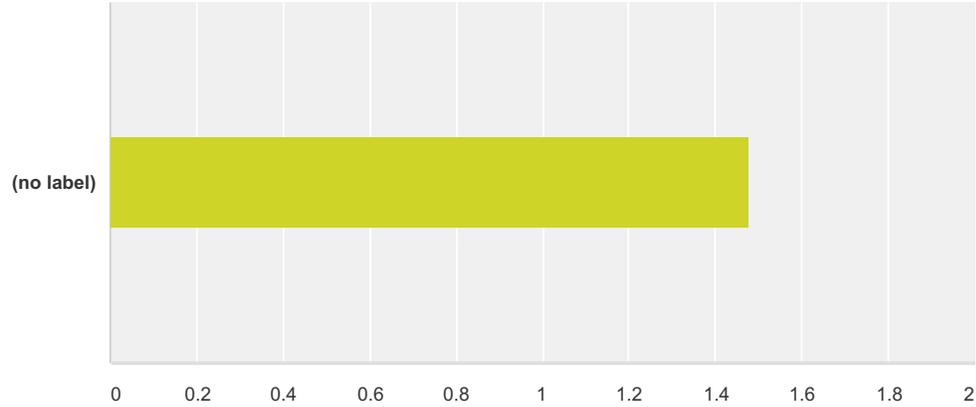
## HB1490 Work Group - Mathematics 6-12

10	To prove the Converse of the Pythagorean Theorem is ridiculous. Official "Proofs" don't even begin until Geometry (10th grade), so trying to get students to understand them in 8th grade is quite difficult. Solving for either A, B, or C is a good challenge for them, but to prove it use specific steps is too much. Also, are students required to memorize formulas for Volume and Surface Area of 3-D figures? These formulas were not provided last year on the test.	11/2/2015 2:32 PM
11	6.GM.A.2 with respect to 7.GM.A.3 and high school G.GMD.B.3 "6.GM.A.2 Find the volume of right rectangular prisms. a. Understand that the volume of a right rectangular prism can be found by filling the prism with multiple layers of the base." The problem with 6.GM.A.2 is that neglects the connection of CUBIC measure with CUBES. This has been a problem with MO students. The idea that units can be FRACTIONAL is also missing from this MLS. Understanding volume as infinite cross-sections is explored in Calculus where the visual and cognitive challenge is appropriate, but not in 6th grade. CCSS 6.G.2 and CCSS 5.MD.5a Wording from CCSS: Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths...	10/31/2015 6:17 PM

Geometry and  
Measurement (GM)  
Grades 6-8

**Q31 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 21 Skipped: 233

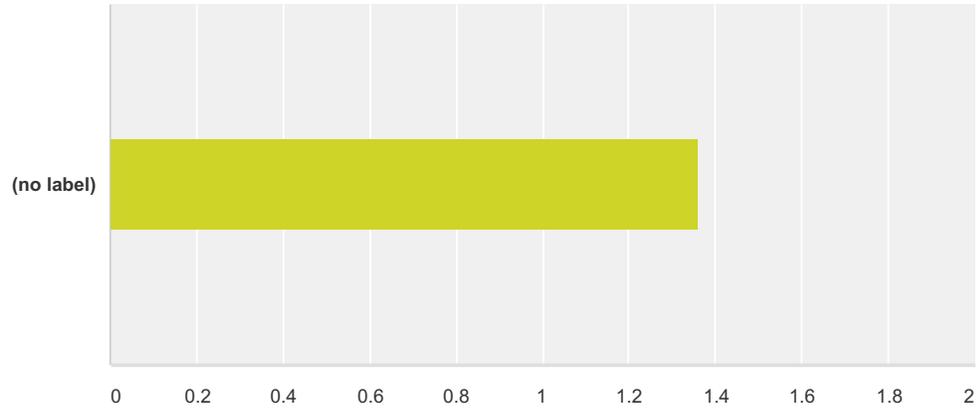


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	61.90% 13	28.57% 6	9.52% 2	0.00% 0	21	1.48

#	Suggested revisions for standards:	Date
1	Original: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. Revision: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to find an unknown angle in a figure. Rationale: This standard has no previous identifiable counterpart in grades five or six. If students are expected to use facts about supplementary, complementary, vertical, and adjacent angles, it would seem that the topic should have an introduction previous to seventh grade. If this is the introduction to this topic, then students should not be expected to write and solve equations using angle facts.	12/1/2015 11:17 PM
2	8.GM.A.4	11/4/2015 9:29 AM
3	I liked that graphing in the coordinate plane was moved to the Geometry domain. Good job combining the standards to create 6.GM.A.3. I also liked the addition of surface area to 8.GM.C.9. Perhaps the cluster should include surface area. "Solve real-world and mathematical problems involving surface area and volume of cones, pyramids, and spheres."	11/2/2015 2:43 PM

**Q32 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 22 Skipped: 232

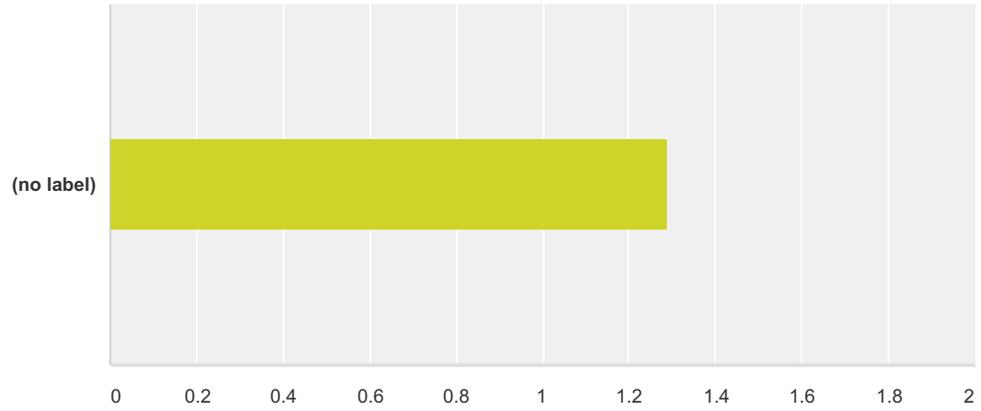


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	72.73% 16	18.18% 4	9.09% 2	0.00% 0	22	1.36

#	Suggested revisions for standards:	Date
1	8.GM.A.4	11/4/2015 9:29 AM
2	Too rigorous.	11/2/2015 2:32 PM

**Q33 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 21 Skipped: 233



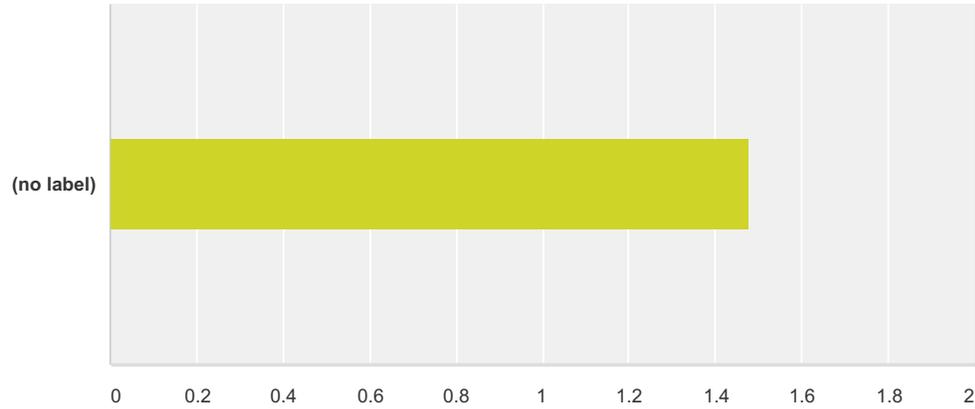
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	76.19% 16	19.05% 4	4.76% 1	0.00% 0	21	1.29

#	Suggested revisions for standards:	Date
1	8.GM.A.4	11/4/2015 9:29 AM

Geometry and  
Measurement (GM)  
Grades 6-8

**Q34 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 21 Skipped: 233

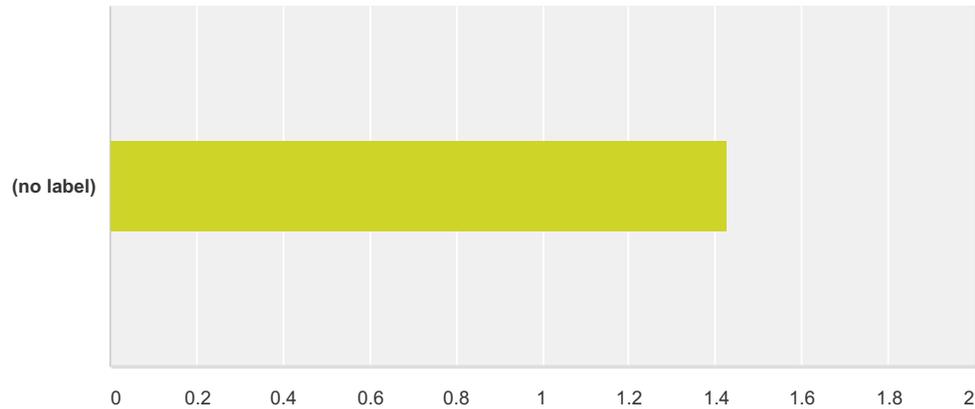


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	61.90% 13	28.57% 6	9.52% 2	0.00% 0	21	1.48

#	Suggested revisions for standards:	Date
1	Although the academic language is appropriate for educators, I feel that many parents would have difficulty understanding the standard.	12/1/2015 7:22 PM
2	I really like the examples that the Common Core State Standards provided. It helped clearly define exceptions.	11/30/2015 10:13 AM
3	8.GM.A.4	11/4/2015 9:29 AM
4	I like the clarification/specificity of several of these standards. For example, 7.MG.A.2 and 7.MG.B.4	11/2/2015 2:43 PM
5	8.GM.C only mentions volume then under that 8.GM.C9 says surface area and volume. Shouldn't it say surface area and volume in 8.GM.C?	10/30/2015 1:31 PM

**Q35 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 21 Skipped: 233



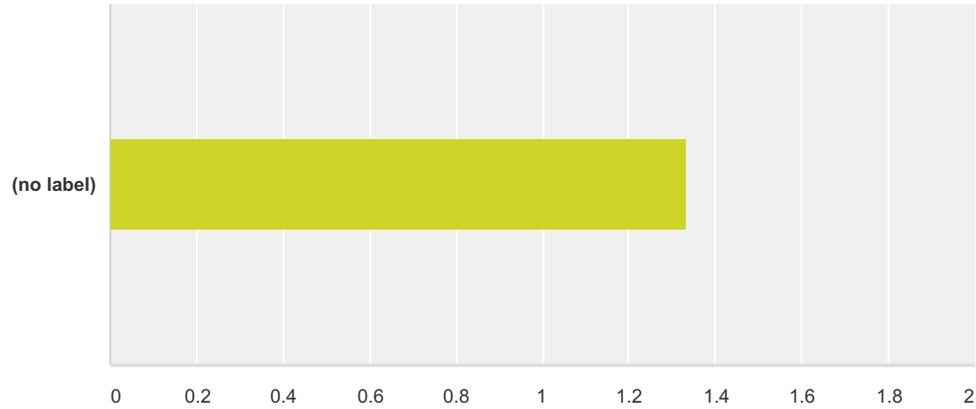
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	71.43% 15	14.29% 3	14.29% 3	0.00% 0	21	1.43

#	Suggested revisions for standards:	Date
1	Original: 7.GM.B.6 b. Understand the concepts of volume and surface area and find related measures for cubes, right triangular prisms, and pyramids, right rectangular prisms and pyramids, and cylinders. Revision: 7.GM.B.6 b. Understand the concepts of volume and surface area and find related measures for cubes, right triangular prisms, right rectangular prisms, and cylinders. Rationale: Pyramids are not essential learning in seventh grade. This is visited in eighth grade and is not necessary to be included in seventh grade standards if it is to be brought up later in 8.GM.C.9 a and b.	12/1/2015 11:17 PM
2	8.GM.A.4	11/4/2015 9:29 AM
3	Develop a solid understanding of cubic area constructed with cubes and, in higher grades, explore infinite cross sections because of the cognitive and visual challenges. Both are necessary but timing is important. Square units is associated with 2-D space, cubic with 3-D space. Wording: "2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	10/31/2015 6:17 PM

Geometry and  
Measurement (GM)  
Grades 6-8

**Q36 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 21 Skipped: 233



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	76.19% 16	14.29% 3	9.52% 2	0.00% 0	21	1.33

#	Suggested revisions for standards:	Date
1	8.GM.A.4	11/4/2015 9:29 AM
2	see above	10/31/2015 6:17 PM

Geometry and  
Measurement (GM)  
Grades 6-8

**Q37 Overall comments regarding the  
proposed standards for Geometry and  
Measurement (GM) (Grades 6-8):**

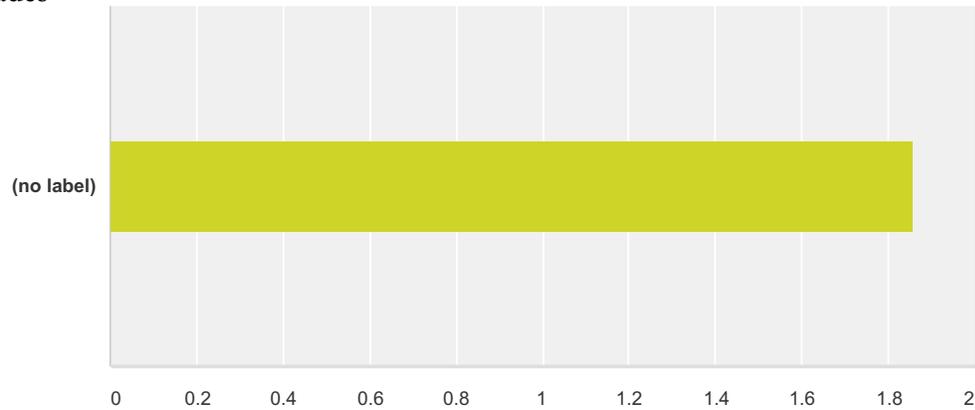
Answered: 8 Skipped: 246

#	Responses	Date
1	These standards were reviewed by 2 instructional math coaches and math teachers.	12/2/2015 2:14 PM
2	Overall, the Geometry Standards are more specific and that is appreciated. For example, 7.GM.A.2, 7.GM.B.4, and 7.GM.B.6.	12/2/2015 1:27 PM
3	7.GM.A.2/7.GM.A.3 are much clearer and uses Tier 3 vocabulary.	11/30/2015 10:23 AM
4	Often students lack the basic skills to be successful in applying the mathematical content to the geometry and measurement standards. As a teacher, I have to spend too much time going back and practicing fraction operations before my students are able to begin developing the concept of conversions within a system of measurement. Also, students are still developing the skills needed to solve expressions and equations so geometric formulas can be challenging. While many students are able to continue on the rigorous path of high expectations, many students fall by the way side and the learning gap widens.	11/13/2015 11:19 AM
5	Please do not change the wording to include terminology that is more difficult to understand. These standards are clear, concise, and very easy to read. Much more user friendly than the previous version. Perhaps creating a SEPARATE glossary of key terms used or even a separate column for examples and definitions of terms could be used to clarify and guide educators towards the expectations of the standard. Do not include them in the same box as the proposed standards. The old standards did this and it was difficult to read and filter through.	11/13/2015 10:24 AM
6	There are more standards on Geometry on the proposed ones.	11/11/2015 3:05 PM
7	Please look at 8.GM.A.4	11/4/2015 9:29 AM
8	Solving for the Pythagorean Theorem is justifiable, but proving it's converse is too difficult and unnecessary. And please provide formulas for 3-D figures (surface area and volume). We expect 75-80% of our students to know this, but what percent of society has them memorize. They just need to know how to use them.	11/2/2015 2:32 PM

**Q39 The standards in this domain are developmentally appropriate.**

Data Analysis, Statistics and Probability (DSP) Grades 6-8

Answered: 21 Skipped: 233



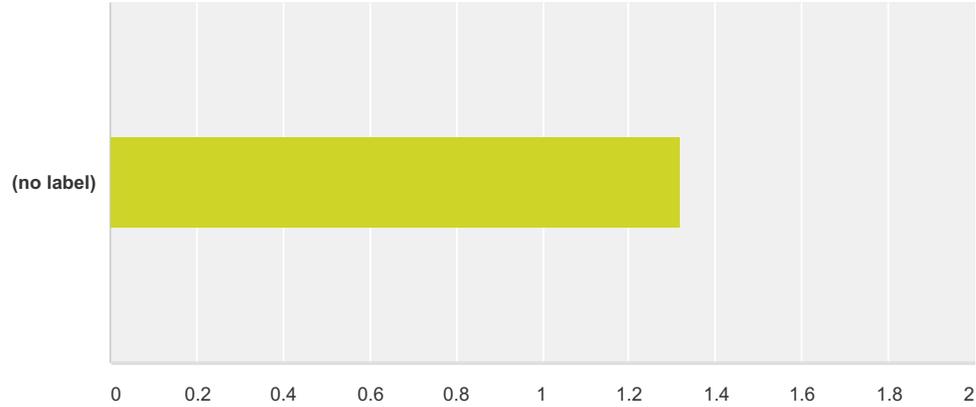
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	52.38% 11	14.29% 3	28.57% 6	4.76% 1	21	1.86

#	Suggested revisions for standards:	Date
1	6.DSP.B.4 We think CREATE CIRCLE GRAPHS needs to be moved to 7th grade because 7th grade does everything with circles and percentages. :) AND...the standard needs to say, "GIVEN A CIRCLE and the CENTER of the CIRCLE...create a circle graph..."	12/2/2015 2:17 PM
2	Standard 6.DSP.A.1 needs to include the example of what is and what is not a statistical question, as the current standard does.	11/30/2015 10:24 AM
3	Mean Absolute Deviation is way too intense for 6th graders. This is a concept that is way over their heads. It is very hard to teach because of the multiple steps. This need to be moved up to a different grade.	11/30/2015 10:23 AM
4	For 6.DSP.A.2 May consider wording: Find the mean, median and mode for given data. 6.DSP.B.5 Find the mean, median and mode for collected data. Please give some examples of the expectations for student learning.	11/24/2015 2:08 PM
5	6.DSP.B4 and5 need to be moved to a higher grade level.	11/18/2015 1:05 PM
6	I do not think the box plots need to be included at the sixth grade level. They are not in any other text book at this level. I rarely see them in any form of communications. They could be looked at, but not mastered at this level. It would be a waste of classroom time to spend lots of time on this skill.	11/17/2015 4:00 PM
7	Mean absolute deviation and interquartile range are not developmentally appropriate for 6th graders. Even if they can follow the steps to get to the answer, they don't understand what they mean or why they are important.	11/11/2015 2:35 PM

Data Analysis,  
Statistics and  
Probability (DSP)  
Grades 6-8

**Q40 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 19 Skipped: 235



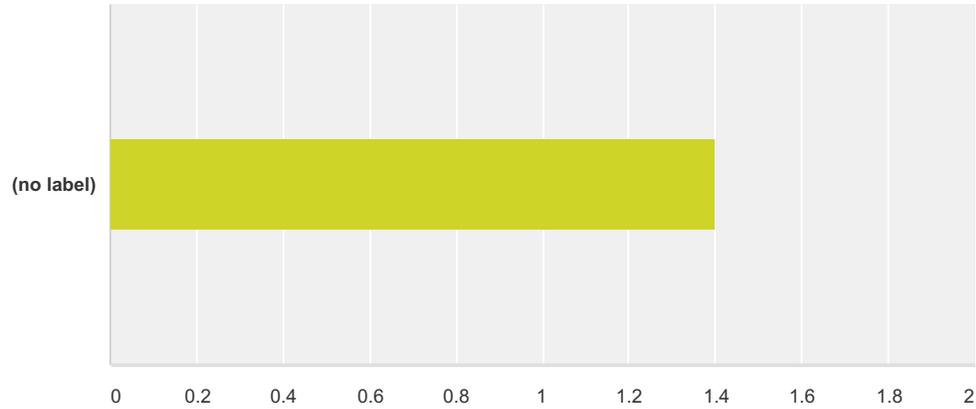
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	73.68% 14	21.05% 4	5.26% 1	0.00% 0	19	1.32

#	Suggested revisions for standards:	Date
1	7.DSPB.3 - "...about twice the variability (mean absolute deviation) on either team..." - Are students to learn mean absolute deviation in grade 6 or grade 7? Mean absolute deviation was an "and/or" option in 6.DSP.B.5. I suggest removing mean absolute deviation in 6.DSP.B.5 and leave it to be taught in 7.DSPB.3.	12/2/2015 3:24 PM
2	6.DSP.B4 and 5 need to be removed and placed in a higher grade level.	11/18/2015 1:05 PM

Data Analysis, Statistics and Probability (DSP)  
Grades 6-8

**Q41 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 20 Skipped: 234



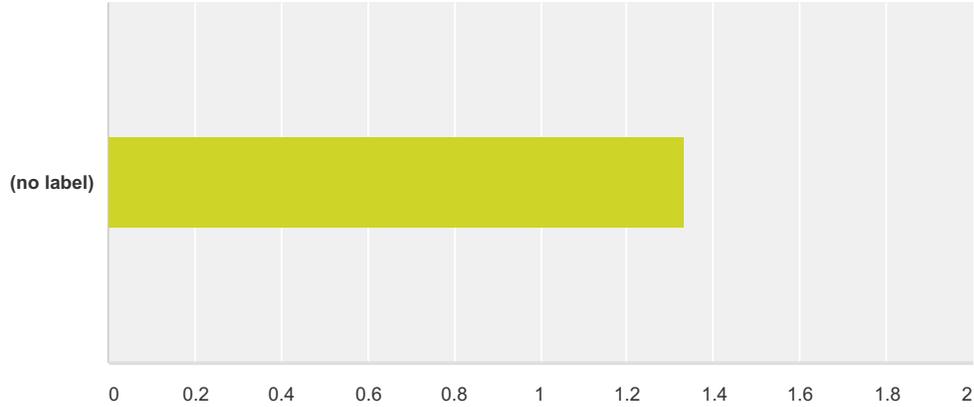
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	75.00% 15	15.00% 3	5.00% 1	5.00% 1	20	1.40

#	Suggested revisions for standards:	Date
1	This is too rigorous for students who have not gone through all of the Common Core per each grade level. I am excited to see the Math students we will have when there are students who have all of the grades rigor to support them.	11/24/2015 2:08 PM
2	6.DSP.B.5 C Students at this level are not developmentally able to understand mean absolute deviation. Before common core came into play, this was an 8th grade skill. Students at this level are just fulling understanding the basic concepts of mean, median, mode, range and interquartile range.	11/20/2015 9:08 AM
3	6DSP.B4 and 5 need to be removed.	11/18/2015 1:05 PM

Data Analysis, Statistics and Probability (DSP)  
Grades 6-8

**Q42 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 18 Skipped: 236

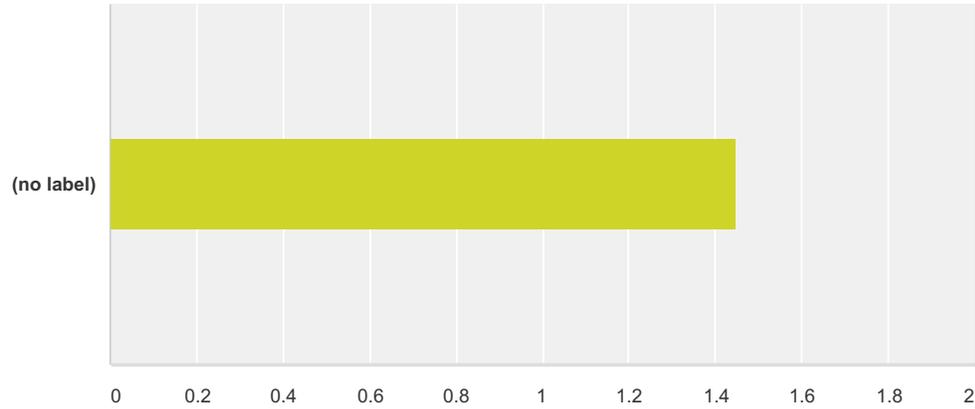


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	72.22% 13	22.22% 4	5.56% 1	0.00% 0	18	1.33

#	Suggested revisions for standards:	Date
1	6.DSP.B.5 - "(interquartile range and/or mean absolute deviation)" - I believe the use of "and/or" prohibits either of these to be assessed on a state assessment.	12/2/2015 3:24 PM
2	7.DPS.A.1 (a, b and c) Understand that statistics can be used to gain information about a population by examining a sample of the population. Subsets a, b, and c are also about understanding. Understanding cannot be assessed. I would rather the use of the verbs explain, interpret, infer, be used with the standard so it can be assessed. The descriptor is written as "use random sampling to draw inferences about a population" The standard and strand descriptor do not match.	11/30/2015 10:23 AM
3	6.DSPB 4 and 5 need to be removed.	11/18/2015 1:05 PM

**Q43 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 20 Skipped: 234



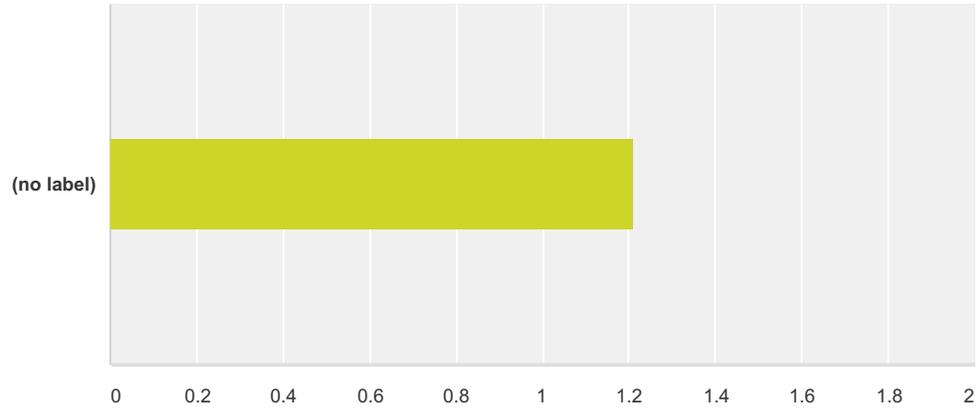
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	65.00% 13	25.00% 5	10.00% 2	0.00% 0	20	1.45

#	Suggested revisions for standards:	Date
1	6.DSP.A.1 I had no idea what this meant till I read the example that was taken out. Maybe you should have left this one as it was.	11/30/2015 4:55 PM
2	6.DSPB .4 and .5 need to be removed.	11/18/2015 1:05 PM
3	6.DSP.B.5b I feel confused by the wording in this standard. I think I would be asked to look at a set of data and then tell how that data may have been collected and from what population, but I'm unsure. I also don't understand how "units of measurement" relate to looking at data sets.	11/10/2015 10:30 AM
4	I liked the clarification/specificity of a few of these standards. For example, 6.DSP.B.4	11/2/2015 2:47 PM

Data Analysis, Statistics  
and Probability (DSP)  
Grades 6-8

**Q44 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 19 Skipped: 235



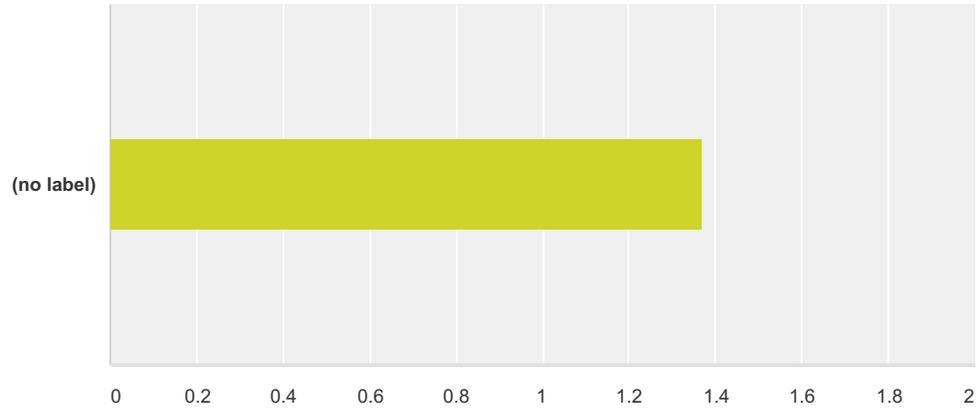
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	84.21% 16	10.53% 2	5.26% 1	0.00% 0	19	1.21

#	Suggested revisions for standards:	Date
1	6DSPB.4 and .5 need to be removed.	11/18/2015 1:05 PM

Data Analysis, Statistics  
and Probability (DSP)  
Grades 6-8

**Q45 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 19 Skipped: 235



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	73.68% 14	15.79% 3	10.53% 2	0.00% 0	19	1.37

#	Suggested revisions for standards:	Date
1	6.DSP.B.4 We think CREATE CIRCLE GRAPHS needs to be moved to 7th grade because 7th grade does everything with circles and percentages. :) AND...the standard needs to say, "GIVEN A CIRCLE and the CENTER of the CIRCLE...create a circle graph..."	12/2/2015 2:17 PM
2	6DSPB.4 and .5 need to be removed.	11/18/2015 1:05 PM

Data Analysis,  
 Statistics and  
 Probability (DSP)  
 Grades 6-8

**Q46 Overall comments regarding the  
 proposed standards for Data Analysis,  
 Statistics and Probability (DSP) (Grades 6-  
 8):**

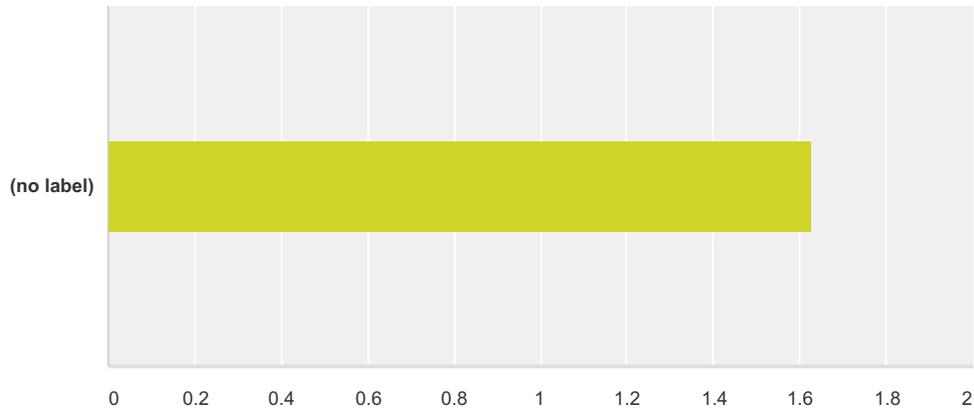
Answered: 6 Skipped: 248

#	Responses	Date
1	Happy to see the addition of circle graphs in 6.DSP.B.4! Happy to see two-way frequency tables were moved to Algebra High School.	12/2/2015 3:24 PM
2	These standards were reviewed by 2 instructional math coaches and teachers.	12/2/2015 2:17 PM
3	Please try to remember that you are testing 11 and 12 year old children. I have taught 34 years and have a very difficult time covering all the standards let alone cover them well enough to the extent that I feel they have a command of what they have or should have learned.	11/18/2015 1:05 PM
4	We will be needing resources to teach these concepts - especially if we are not allowed to use anything that will be labeled "CCSS" - is that just a rumor?	11/17/2015 10:41 AM
5	Please do not change the wording to include terminology that is more difficult to understand. These standards are clear, concise, and very easy to read. Much more user friendly than the previous version. Perhaps creating a SEPARATE glossary of key terms used or even a separate column for examples and definitions of terms could be used to clarify and guide educators towards the expectations of the standard. Do not include them in the same box as the proposed standards. The old standards did this and it was difficult to read and filter through.	11/13/2015 10:29 AM
6	Many teachers are hesitant to accept these standards, but they are much needed. Professional development in this area is desperately needed for teachers.	11/3/2015 9:50 AM

Functions (F) 6-8

**Q48 The standards in this domain are developmentally appropriate.**

Answered: 8 Skipped: 246



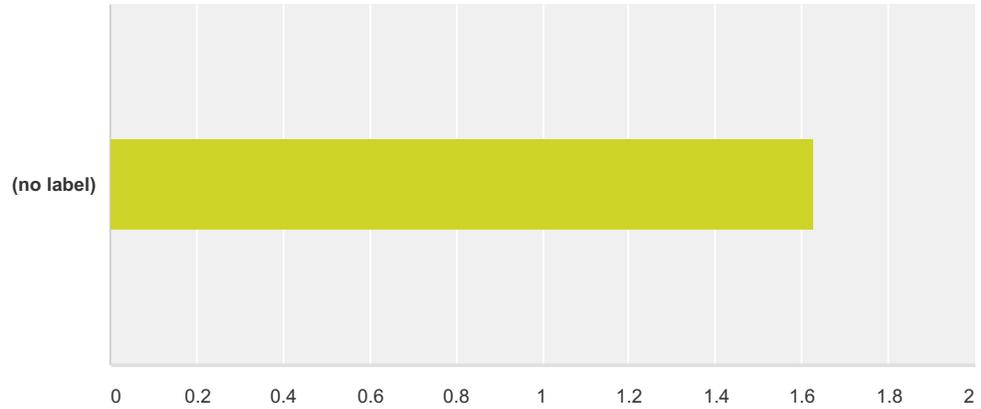
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	62.50% 5	25.00% 2	0.00% 0	12.50% 1	8	1.63

#	Suggested revisions for standards:	Date
1	The brain hasn't had the chance to develop enough for the students to grasp concepts that are this abstract.	11/12/2015 9:17 AM

Functions (F) 6-8

**Q49 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 8 Skipped: 246



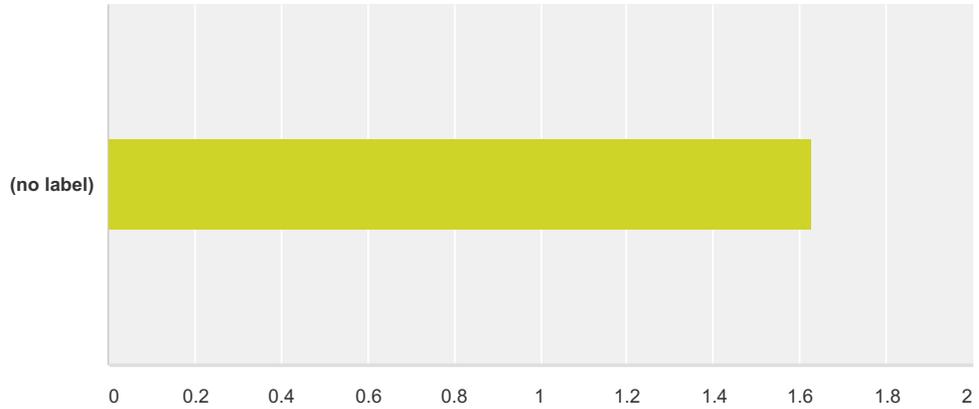
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	62.50% 5	25.00% 2	0.00% 0	12.50% 1	8	1.63

#	Suggested revisions for standards:	Date
1	Inappropriate for brain development.	11/12/2015 9:17 AM

Functions (F) 6-8

**Q50 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 8 Skipped: 246



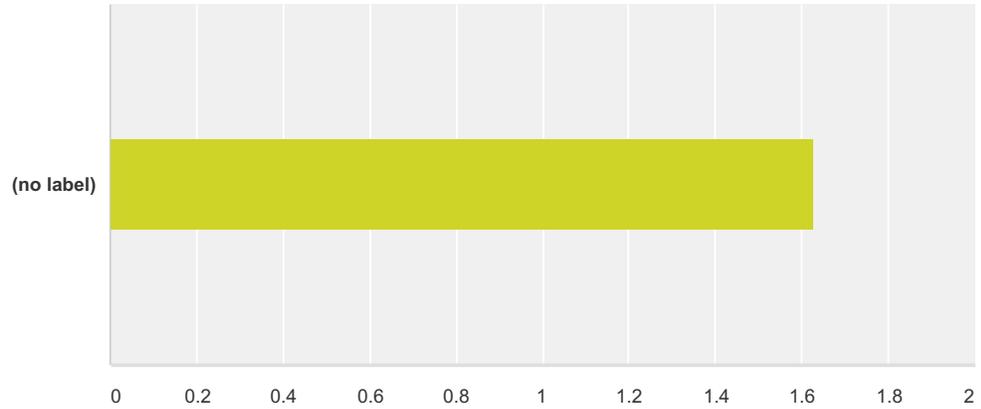
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	62.50% 5	25.00% 2	0.00% 0	12.50% 1	8	1.63

#	Suggested revisions for standards:	Date
1	These standards are not age appropriate for brain development.	11/12/2015 9:17 AM

Functions (F) 6-8

**Q51 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 8 Skipped: 246



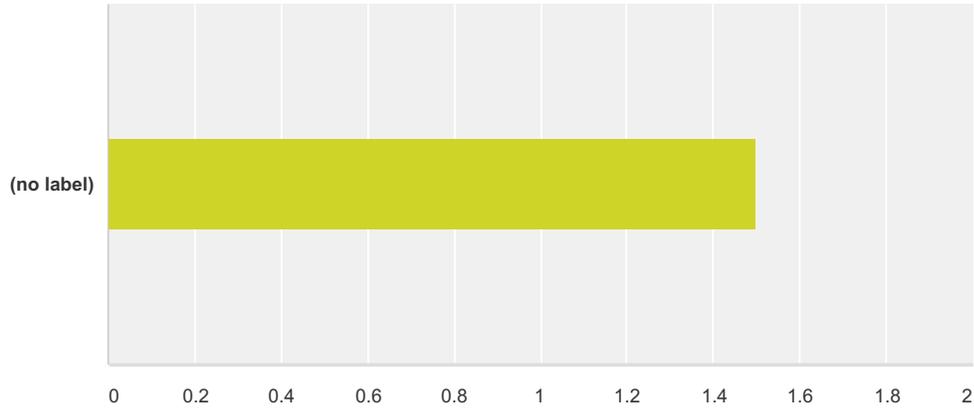
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	62.50% 5	25.00% 2	0.00% 0	12.50% 1	8	1.63

#	Suggested revisions for standards:	Date
1	In the classroom or the state assessment doesn't show how the students truly have adapted.	11/12/2015 9:17 AM

Functions (F) 6-8

**Q52 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 8 Skipped: 246



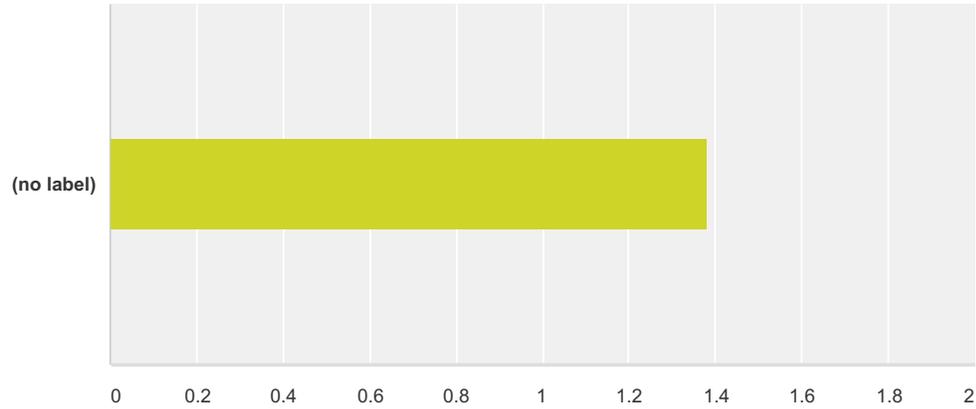
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	62.50% 5	25.00% 2	12.50% 1	0.00% 0	8	1.50

#	Suggested revisions for standards:	Date
	There are no responses.	

Functions (F) 6-8

**Q53 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 8 Skipped: 246



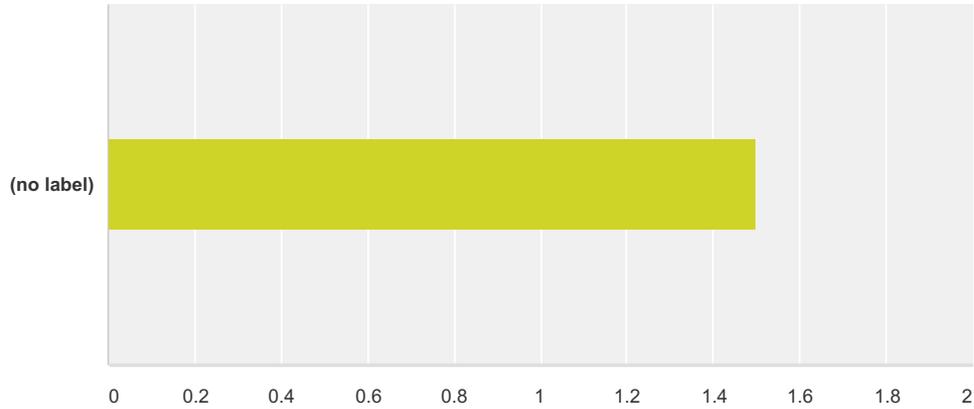
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	75.00% 6	12.50% 1	12.50% 1	0.00% 0	8	1.38

#	Suggested revisions for standards:	Date
	There are no responses.	

Functions (F) 6-8

**Q54 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 8 Skipped: 246



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	75.00% 6	12.50% 1	0.00% 0	12.50% 1	8	1.50

#	Suggested revisions for standards:	Date
	There are no responses.	

Functions (F) 6-8

**Q55 Overall comments regarding the proposed standards for Functions (F) (Grades 6-8):**

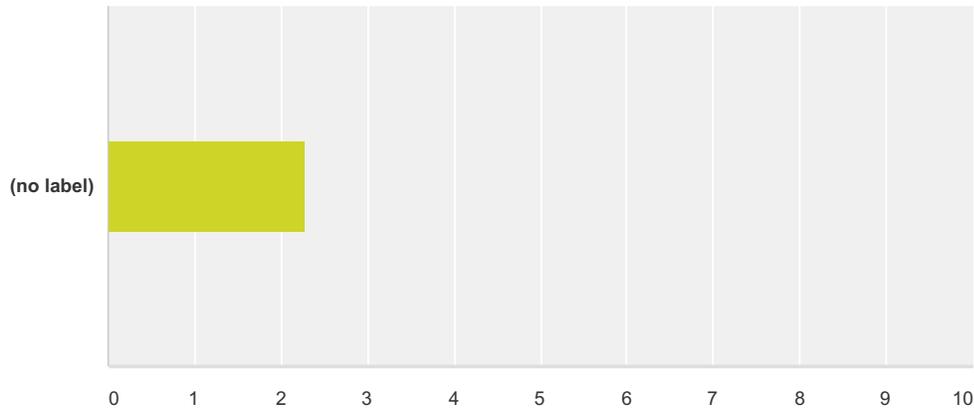
Answered: 1 Skipped: 253

#	Responses	Date
1	The standards were organized well, however some examples might have been nice like the old standards included.	11/12/2015 9:25 AM

Algebra - High School

**Q57 The standards in this domain are developmentally appropriate.**

Answered: 62 Skipped: 192



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	29.03% 18	16.13% 10	53.23% 33	1.61% 1	62	2.27

#	Suggested revisions for standards:	Date
1	Deriving the quadratic formula is a single process, whereas being able to complete the square using equations is applying the process.	12/2/2015 9:53 PM
2	Algebra I students are not mentally developed enough to understand the abstract behavior of piecewise functions, rational exponents beyond simply converting radicals to rational exponents. The process of completing the square also seems of low priority when you think of all the other skills that should be solidified at the algebra I level.	12/2/2015 6:31 PM
3	I strongly believe A1.REI.C.9.e should be removed from Algebra 1. I do not believe it is developmentally appropriate for 8th and 9th grade Algebra 1 students to derive the quadratic formula. I believe A1.REI.C.9.f should be modified to remove solving by quadratic formula and possibly also remove solving by completing the square. I think we can save these concepts for Algebra 2 without any detriment to the students.	12/2/2015 8:55 AM
4	The only issue with content is the concept of completing the square in Algebra I. Most adolescent minds have not fully developed the abstract ideas that coincide with this objective at this stage of their education. They should master factoring before using completing the square to solve/graph. I feel this is better suited for LAgebra II and beyond. (A1.SSE.A.3 and A1.REI.C.9)	11/30/2015 3:35 PM
5	Algebra 1 has so many standards to complete before the school wide EOC test. Some Algebra II standards have been moves to Trig, some Algebra 1 standards need to move to Algebra II.	11/30/2015 2:18 PM
6	I feel that completing the square is a concept far above the ability level of high school freshmen. We barely get to using factoring to solve quadratic functions in order to make sure we have a concrete understanding of solving linear equations and inequalities. (Found in A1.SSE.A.3 and A1.REI.C.9) I know that technology is a very important of our future and the children's future, but unless there is a good amount of funding, there is not a way for every teacher to be able to supply the technology needs these standards suggest. (Found through-out standards)	11/30/2015 10:19 AM

## HB1490 Work Group - Mathematics 6-12

7	A1.SSE.A.3 Choose and produce equivalent forms of a quadratic expression to reveal and explain properties of the quantity represented by the expression. d. Find the maximum or minimum value of a quadratic function by completing the square. I find it completely unnecessary to complete the square to find the max or min of a quadratic function. Why not just use $-b/2a$ and find the the max by plugging that value into the function. ??? A1.REI.C.9 Solve mathematical and real-world problems involving quadratic equations in one variable. e. Derive the quadratic formula from $ax^2 + bx + c = 0$ , Why does one have to derive the quadratic formula. Goes back to complete the square I know, so maybe that's why you have it in there. However, deriving the formula does not make sense. No one in the Missouri Legislature could do this. The data and statistics domain is too comprehensive. No one can get to that material in a year.	11/20/2015 3:02 PM
8	Piece wise functions are a difficult topic to grasp at the 9th grade level. They are just beginning to understand linear and quadratic functions; adding another element to it sends their brains to overload.	11/18/2015 4:39 PM
9	A1.REI.E.14 Graphically show that the solution to the equation $f(x) = g(x)$ is the x-coordinate(s) of the point(s) of intersection of $y = f(x)$ and $y = g(x)$ . Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational absolute value, exponential functions. A1.IF.C.8 This standard would be better understood if the examples were included from HSF-IF.C.8	11/17/2015 4:55 PM
10	Many of the standards are less specific than the current ones. As educators the current ones were a breath of fresh air after the CLS's. I am extremely concerned about the number of objectives, 48, that are to be covered in algebra 1. As the department head, my algebra 1 teachers are already pressed to cover the objectives.	11/17/2015 10:16 AM
11	Take some out! It's not physically or realistically possible to cover this volume of material in a school year.	11/17/2015 10:08 AM
12	They are not as precise.	11/17/2015 9:13 AM
13	Algebra 2 needs to teach trigonometry which has been deleted from the standards. Since the state now requires ACT testing for all juniors, we should prepare them for the test which includes trigonometry.	11/15/2015 2:38 PM
14	In Algebra 1, I would rather students be able to focus on linear equations and somewhat on quadratic. Linear, quadratic, and exponential is too much material for one year.	11/13/2015 10:31 AM
15	See Overall Comments	11/11/2015 1:46 PM
16	see overall comments	11/11/2015 1:45 PM
17	See overall comments	11/11/2015 1:44 PM
18	see below	11/11/2015 1:44 PM
19	SEE OVERALL COMMENTS	11/11/2015 1:43 PM
20	A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list “ie., slope, intercepts, extreme values” shouldn't we include zeros and percent rate of change. Is “translate” a poor choice of words since in math it has a different meaning? Maybe it could read “Write a function in different but equivalent forms ...” A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. A2.IF.A.1: Include trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:43 PM
21	See Comments in Overall Comments	11/11/2015 1:42 PM

## HB1490 Work Group - Mathematics 6-12

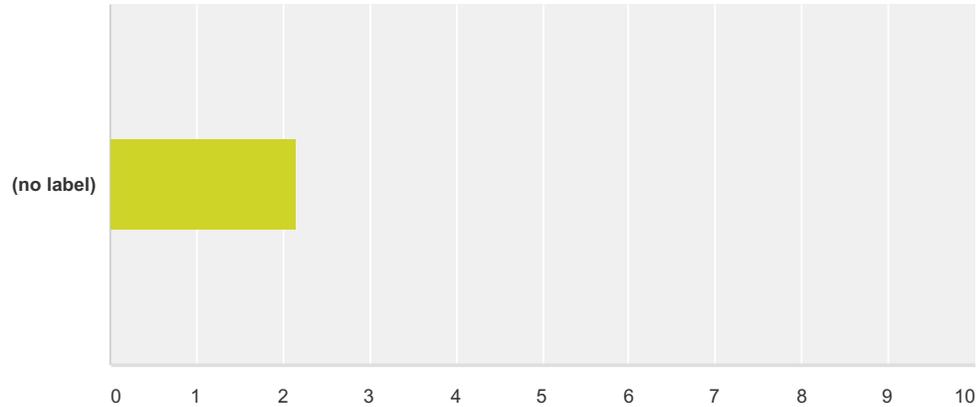
22	<p>Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.</p>	11/11/2015 1:42 PM
23	See bottom comments	11/11/2015 1:42 PM
24	See bottom comments	11/11/2015 1:41 PM
25	Completing the square in Algebra 1, might be a better fit in Algebra 2. The conceptual understanding of that process might be too abstract for this level of student.	11/10/2015 10:21 AM
26	A2.APR.A.7 - to sketch a function defined by a polynomial, you also need to know the end behavior, not just the zeros	11/4/2015 2:16 PM
27	<p>Completing the square is more appropriate for Geometry and Algebra 2 as an additional quadratics skill. Students in Algebra 1 need to master only the basics for quadratics. We can then use that foundation to build upon. Irrational solutions are sufficient for an Algebra 1 student. Then, Algebra 2 can teach complex solutions and imaginary numbers. Piecewise functions in Algebra 1 is reaching far above what we have time to master in Algebra 1. We want to master concepts to build a great foundation, not just teach so many different things our students are not able to master any of them. If our students have a strong foundation, any future class can build upon what they know, but stretching them so thin, creates a situation where they master very few things. Students in Algebra 1 need a solid foundation in the basic rules of exponents. Rational exponents exceed an Algebra 1 level. In a true Algebra 1 setting, there is not time to master all the concepts described in this document. The concepts listed above should not be seen as mandatory for Algebra 1.</p>	11/4/2015 10:03 AM
28	<p>I believe the Algebra I curriculum should require students to master foundational skills. In my opinion as a teacher with decades of experience, rational exponents, completing the square, complex numbers, closure, and piece-wise functions are not essential to this foundation. It might be nice to include them in an Algebra I curriculum, but only as an extension if time allowed. In my opinion, these components would be more appropriately placed in the Algebra II standards.</p>	11/4/2015 9:19 AM
29	I do not believe that graphing piecewise-defined functions is developmentally appropriate for Algebra 1.	11/2/2015 3:40 PM
30	<p>A1.NQ.B.3. b.... Convert units and rates within a system without conversion factors provided and between systems with the conversion factor provided. Need to specify which conversion factors would NOT be provided because they are expected to be memorized: feet to yards, vs. feet to miles or feet to cm. A2.NQ.A.3 A When necessary, rationalize denominators using conjugates. When would it be "necessary" to rationalize denominators? The relevance of this skill would be difficult to justify to a teenager in Algebra 2. It is an unnecessary and frustrating addition to an otherwise fantastic set of standards. A2.NQ.B.6 ... divide complex numbers. This is not in CCSS. Adding, subtracting, and multiplying complex numbers is enough at this level and division would add a level of complexity more appropriate for a 4th year of high school math. A2.APR.A.5&amp; 6, A.REI.b.10 Put a limit on the polynomial degree to avoid frustrating students with irrelevant complexity. From the CCSS appendix: "In this course rational functions are limited to those whose numerators are of degree at most 1 and denominators of degree at most 2" A2.REI.C.11 Extend solving systems of equations to finding solutions of systems with two unknowns that include non-linear equations or inequalities. Students should use graphical methods in most cases but could use algebraic methods in simple cases. Define "simple cases" and restrict "non-linear" to specific conics and functions so that teachers understand the breadth of this standard. A2.BF.B.3 Derive inverses of simple functions, and compose the inverse with the original function to show that the functions are inverses. Nix or define "simple" as something like "a linear function." The CCSS writers clearly state their purpose of delaying finding inverses in the Progressions documents for functions. It would be wise for us to heed those warnings and not put this standard in MLS. We need t keep the content as relevant as possible. A2.SSE.D.14 Use properties of logarithms to do the following: ...this list of memorized properties would be difficult to justify in terms of relevance and are best left to a 4th year of high school mathematics.</p>	10/31/2015 8:40 PM
31	<p>The Algebra 2 standards are fine. However, upon speaking with our Algebra 1 and Geometry teachers, there are some standards that should be included in Algebra 2, that are currently in those classes. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.</p>	10/27/2015 9:02 AM

## HB1490 Work Group - Mathematics 6-12

32	Majority of the standards fit algebra 1, but some are a stretch and should be moved to an algebra 2 standard. For example: -completing the square A1.SSE.A.3 -quadratic formula A1.REI.C.9 -piece-wise A1.IF.C.7 -two way frequency tables A1.DS.A.5	10/27/2015 8:57 AM
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**Q58 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 61 Skipped: 193



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	34.43% 21	19.67% 12	40.98% 25	4.92% 3	61	2.16

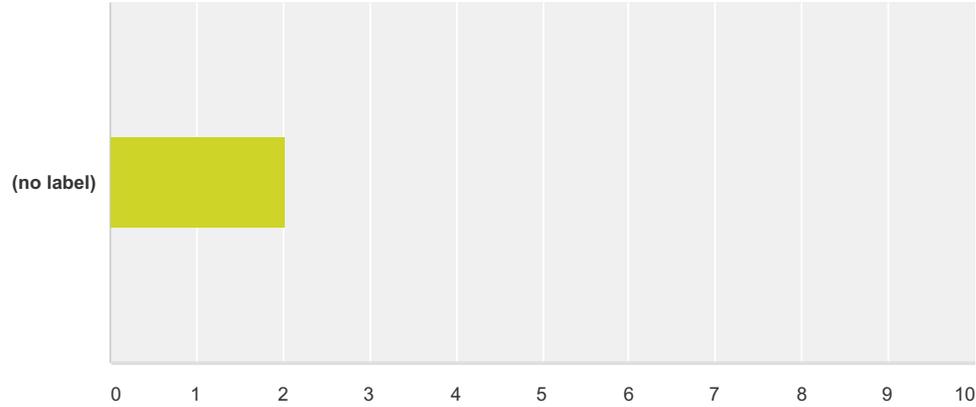
#	Suggested revisions for standards:	Date
1	This represents a strong vertical alignment, however have you had the opportunity to teach the concepts in the classroom to ensure that mastery is done at each level? Touching a topic and not being able to go in depth is still the result of too many topics and not enough time to go deeply into the topic with applications and activities (manipulatives, labs, etc.)	12/2/2015 9:53 PM
2	When we force standards down we education out to be a mile wide and an inch deep. This allows for absolutely no retention or understanding of relationships. It is ignorant and ill advised to not allow students to master content at an age appropriate level instead of "exposing" them to snip bits they never trully grasp.	12/2/2015 6:31 PM
3	The second year algebra standards do not contain a lot of content. Some of the content should be moved from geometry to Algebra 2.	12/2/2015 2:53 PM
4	With the exception of completing the square in Algebra 1 curriculum, I feel very confident in this layout.	11/30/2015 3:35 PM
5	See above.....	11/30/2015 2:18 PM
6	Keeping completing the square at the Algebra II or above level is more appropriate for the abstract development of the students. I feel that too often kids are not fully developed abstractly by this point in the curriculum.	11/30/2015 10:19 AM
7	Some topics included in algebra one such as deriving the quadratic formula should not be at the Algebra One level. Not sure they should be at any high school level accept for maybe seniors at the advanced level.	11/20/2015 3:02 PM
8	A1.DS.A.2 omit standard deviation There is plenty of algebraic concepts without delving into statistics	11/17/2015 4:55 PM
9	more aggressive at lower grades to allow students to be prepared to master all of these in algebra 1	11/17/2015 10:16 AM
10	The revision has taken a lot of the description details out. Please be more specific.	11/17/2015 10:15 AM
11	How many hours a day do you think we have to teach this volume of material?	11/17/2015 10:08 AM
12	Not precise enough.	11/17/2015 9:13 AM
13	See Overall Comments	11/11/2015 1:46 PM

## HB1490 Work Group - Mathematics 6-12

14	see overall comments	11/11/2015 1:45 PM
15	See overall comments	11/11/2015 1:44 PM
16	SEE OVERALL COMMENTS	11/11/2015 1:43 PM
17	see overall comments	11/11/2015 1:42 PM
18	See Comments in Overall Comments	11/11/2015 1:42 PM
19	Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.	11/11/2015 1:42 PM
20	See bottom comments	11/11/2015 1:42 PM
21	See bottom comments	11/11/2015 1:41 PM
22	What is the purpose of A1.NQ.A.1 and A1.NQ.A.2? These standards seem to be on an island by themselves. How do they connect with other Algebra 1 standards?	11/6/2015 7:51 AM
23	As described above, these standards are not realistic to what an Algebra 1 class can cover in one year. Completing the square, complex solutions, rational exponents, and piecewise functions	11/4/2015 10:03 AM
24	Is it possible to call out what "simple" means in A1.REI.C.8? What type of equations and inequalities is this referring? Solving linear absolute value equations and inequalities should be taught in Algebra 1 since we will be graphing them (A1.IF.C.7). Please consider moving A2.REI.B.9 to Algebra 1. I do not believe that graphing piecewise-defined functions is necessary in Algebra 1. It is addressed in Algebra 2 (A2.IF.A.1). I also think we are missing the content of A.CED.3 in Algebra 2. Identifying constraints on equations/inequalities (such as radical equations).	11/2/2015 3:40 PM
25	The path is coherent, but there are some standards that are being explored too early. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/27/2015 9:02 AM

### Q59 The standards set a rigorous path of high expectations for students at each grade level.

Answered: 61 Skipped: 193



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	42.62% 26	16.39% 10	37.70% 23	3.28% 2	61	2.02

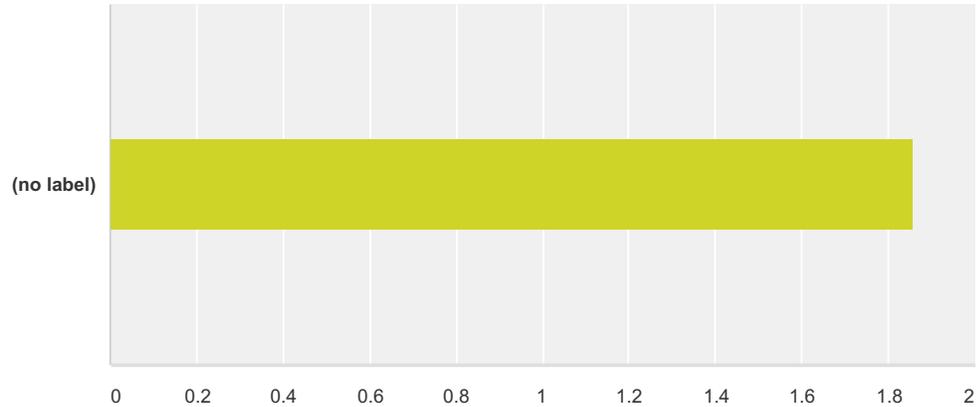
#	Suggested revisions for standards:	Date
1	The content is packed and a challenge to teach at a level of understanding for all students in algebra. This includes 9th, 10th as well as students who have struggled and need to learn algebra in 11th and 12th grade. Very technical and needs clarification in student-friendly vocabulary.	12/2/2015 9:53 PM
2	High expectations and unrealistic expectations are too totally different things. We should have high expectations for students to master age appropriate content, not expect them to grasp depth during brevity.	12/2/2015 6:31 PM
3	Again, with the exception listed above.	11/30/2015 3:35 PM
4	If 8th grade does not complete their standards, Algebra 1 must back track and complete both 8th grade and Algebra 1 standards. With the vast amount of standards in Algebra 1, this makes it virually impossible to be successful on the EOC.	11/30/2015 2:18 PM
5	I feel it is almost perfect at a rigor level for motivated students.	11/30/2015 10:19 AM
6	The piece wise functions are too rigorous at the freshman level and should be removed from Algebra I since they are already being taught at the Algebra II level.	11/18/2015 4:39 PM
7	They are rigorous, possibly too rigorous for IEP and/or ELL or merely low achievers.	11/17/2015 10:16 AM
8	Trigonometric Functions should be added in to the A2.IF.A.1	11/17/2015 10:15 AM
9	Take some out. It is impossible to cover the shear volume of standards expected to be covered.	11/17/2015 10:08 AM
10	be more precise	11/17/2015 9:13 AM
11	The Algebra 2 standards have more of a feel of skill work instead of conceptual understanding. The current standards do a much better job of conceptual understanding than the proposed standards.	11/15/2015 2:38 PM
12	Same as mentioned above concerning Algebra 1. Algebra 2 and Geometry was appropriate.	11/13/2015 10:31 AM
13	See Overall Comments	11/11/2015 1:46 PM
14	see overall comments	11/11/2015 1:45 PM

## HB1490 Work Group - Mathematics 6-12

15	See overall comments	11/11/2015 1:44 PM
16	SEE OVERALL COMMENTS	11/11/2015 1:43 PM
17	see overall comments	11/11/2015 1:42 PM
18	See Comments in Overall Comments	11/11/2015 1:42 PM
19	Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.	11/11/2015 1:42 PM
20	See bottom comments	11/11/2015 1:42 PM
21	See bottom comments	11/11/2015 1:41 PM
22	I believe in high expectations for all students, no matter their background. However, for the concepts described in my first comment, they exceed what is possible to achieve at the mastery level. Any teacher in the public school setting knows mastery of all these standards is not possible. Completing the Square, complex solutions, rational exponents, and piecewise functions	11/4/2015 10:03 AM
23	The Standards are too rigorous in the younger grades. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/27/2015 9:02 AM

**Q60 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 59 Skipped: 195



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	50.85% 30	13.56% 8	33.90% 20	1.69% 1	59	1.86

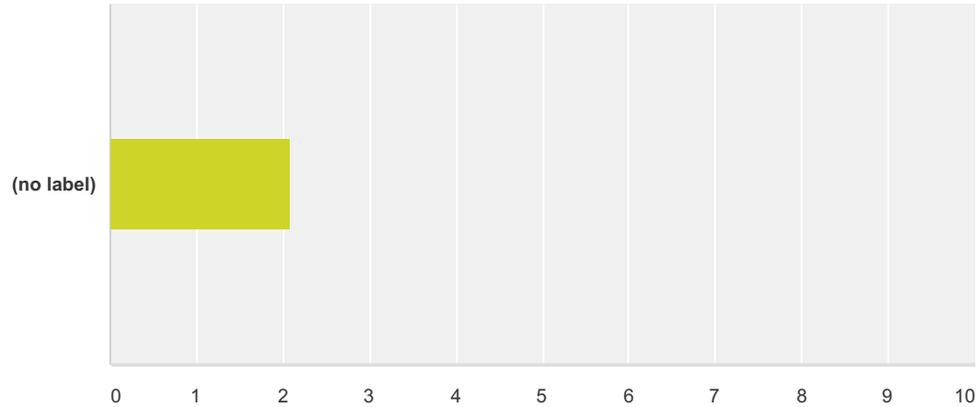
#	Suggested revisions for standards:	Date
1	Improved examples of the types of problems going to be assessed is important. The examples that are given clarify the level of understanding the students must fulfill. Are the students expected to use interval notation?	12/2/2015 9:53 PM
2	The standards are better than previous standards but still lack an exact and rigorous definition. Why do we ask for rigor from our students when we as educators do not expect the same from ourselves.	12/2/2015 6:31 PM
3	Absolutely, but I would like to know more about the intended testing.	11/30/2015 3:35 PM
4	The majority of the standards in this domain can be assessed. Not all students may not be successful but a question can be derived.	11/30/2015 2:18 PM
5	Absolutely, I would like more information on the intended tests.	11/30/2015 10:19 AM
6	I don't think it wise to assess the derivation of the quadratic formula at the state assessment. Hard to grade...	11/20/2015 3:02 PM
7	They can be assessed, but with this pacing the results may not be advantageous to all students. In fact, it seems to be catered toward average to above average students and will have adverse affects discouraging many students.	11/17/2015 10:16 AM
8	I can't cover this amount of material in a school year.	11/17/2015 10:08 AM
9	more precise.	11/17/2015 9:13 AM
10	Same as mentioned above concerning Algebra 1. Algebra 2 and Geometry was appropriate.	11/13/2015 10:31 AM
11	See Overall Comments	11/11/2015 1:46 PM
12	see overall	11/11/2015 1:45 PM
13	see overall comments	11/11/2015 1:44 PM
14	SEE OVERALL COMMENTS	11/11/2015 1:43 PM
15	see overall comments	11/11/2015 1:42 PM
16	See Comments in Overall Comments	11/11/2015 1:42 PM

## HB1490 Work Group - Mathematics 6-12

17	<p>Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.</p>	11/11/2015 1:42 PM
18	See bottom comments	11/11/2015 1:42 PM
19	See bottom comments	11/11/2015 1:41 PM
20	same as above	11/4/2015 10:03 AM

**Q61 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 61 Skipped: 193



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	39.34% 24	19.67% 12	34.43% 21	6.56% 4	61	2.08

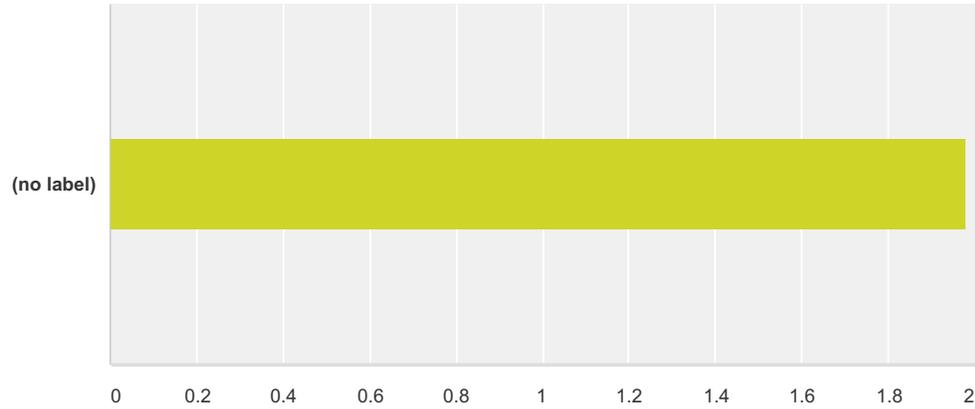
#	Suggested revisions for standards:	Date
1	The standards, as written, are too technical for parents. Are the students expected to use interval notation? What types of data displays are included?	12/2/2015 9:53 PM
2	Educators struggle with understanding the nature of these standards. These standards can be viewed as teaching at multiple levels of intensity. I fear we lose depth when we allow creativity to be a part of our standard interpretation.	12/2/2015 6:31 PM
3	A1.SSE.A.1 - "contextual meaning" may need some explanation. I would prefer adding the sub-parts from HSA-SSE.A.1 and HSA-SSE.B.3 to be the sub-parts of A1.SSE.A.1. Is Algebra I responsible for teaching only linear, quadratic, exponential and simple piecewise-defined functions? So absolute value functions, along with step functions, are introduced and taught in Algebra II? Are even and odd functions listed in any standard?	12/2/2015 3:11 PM
4	A1.REI.E.16 Less explanation leads to varying interpretations. ?? When the standard was rewritten a lot of details were left out.	12/2/2015 2:32 PM
5	The standards as presented are very broad in their descriptions, even to educators. For example, A1.IF.B7 includes graphing piecewise functions. Will these be intro-level piecewise functions? These can be difficult even for good Algebra 2 and College Algebra students.	12/2/2015 12:48 PM
6	I feel these standards are much more readable and applicable to the ideal curriculum.	11/30/2015 3:35 PM
7	Not at all!	11/30/2015 2:18 PM
8	There could be a few more examples to help clarify expectations, but overall very clear.	11/30/2015 10:19 AM
9	The current standards have better illustrations and examples to clarify the DOK and content of questions.	11/17/2015 4:55 PM
10	More Detail!	11/17/2015 10:15 AM
11	Most wouldn't understand.	11/17/2015 10:08 AM
12	more precise.	11/17/2015 9:13 AM

## HB1490 Work Group - Mathematics 6-12

13	More examples could be added to Algebra 1. Algebra 2 and Geometry was appropriate.	11/13/2015 10:31 AM
14	See Overall Comments	11/11/2015 1:46 PM
15	see overall comments	11/11/2015 1:45 PM
16	see overall comments	11/11/2015 1:44 PM
17	SEE OVERALL COMMENTS	11/11/2015 1:43 PM
18	See first box	11/11/2015 1:43 PM
19	see overall comments	11/11/2015 1:42 PM
20	See Comments in Overall Comments	11/11/2015 1:42 PM
21	Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.	11/11/2015 1:42 PM
22	See bottom comments	11/11/2015 1:42 PM
23	See bottom comments	11/11/2015 1:41 PM
24	A2.BF.B.3 - The term "derive" seems unnecessarily complicated. Using the term "find" or "construct" communicates the same idea. A2.DS.A.3 - I had to read this several times before I understood what was being asked. The original wording in HSS.IC.B.3 is easier to comprehend	11/4/2015 2:16 PM
25	The Statistic Standards in the Make inferences and justify conclusion standards are a little confusing.	10/27/2015 9:02 AM
26	Clarification would help on A1.DS.A.8 for "correlation and causation"	10/27/2015 8:57 AM

**Q62 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 59 Skipped: 195



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	49.15% 29	11.86% 7	30.51% 18	8.47% 5	59	1.98

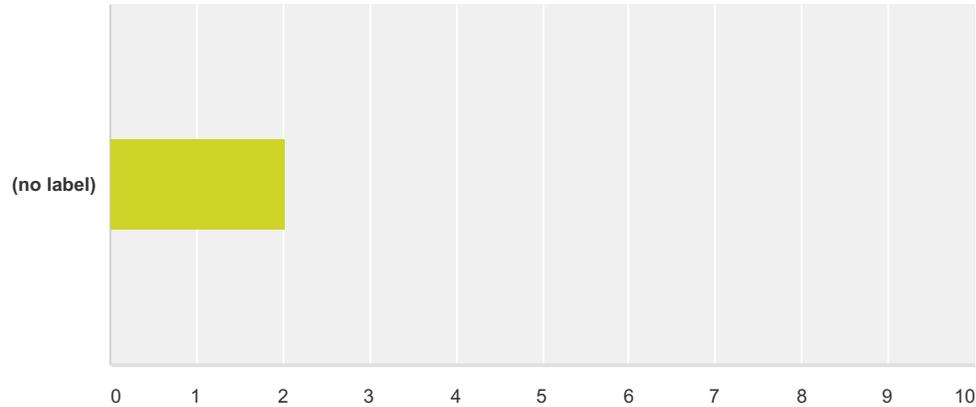
#	Suggested revisions for standards:	Date
1	Many of these topics are expanded in algebra 2 and should be noted that fewer topics with a more laser focus is important for the students to master the topics.	12/2/2015 9:53 PM
2	We set students up for failure when we teach over their heads and do not teach depth they can retain and hold onto. When taught foundational material students can readily progress through any curriculum when built upon a strong foundation. I have heard from so many teachers that the process of getting to all of the content allows for little depth and even less retention. Teachers face a choice to teach to the standards or teach instead what is in the best interest of the student.	12/2/2015 6:31 PM
3	Yes, especially leading into STEM jobs.	11/30/2015 3:35 PM
4	College-yes, Career readiness-NO	11/30/2015 2:18 PM
5	Absolutely, we must be careful not to discourage kids by setting the rigor too high for the lower performing students.	11/30/2015 10:19 AM
6	Again there are topics that are not needed to prepare you for college algebra. I have taught dual credit for a long time and deriving the quadratic formula does not seem necessary.	11/20/2015 3:02 PM
7	Not all career level fields need such a depth of mathematics. We do not serve all vocational students adequately.	11/17/2015 10:16 AM
8	Take some standards out. This is nearly impossible to cover in a school year to any degree success.	11/17/2015 10:08 AM
9	more precise.	11/17/2015 9:13 AM
10	The lack of trigonometry and conceptual understanding of algebra 2 content do no prepare students for college.	11/15/2015 2:38 PM
11	See Overall Comments	11/11/2015 1:46 PM
12	see overall comment	11/11/2015 1:45 PM
13	see overall comments	11/11/2015 1:44 PM
14	SEE OVERALL COMMENTS	11/11/2015 1:43 PM

## HB1490 Work Group - Mathematics 6-12

15	see overall comments	11/11/2015 1:42 PM
16	See Comments in Overall Comments	11/11/2015 1:42 PM
17	Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.	11/11/2015 1:42 PM
18	See bottom comments	11/11/2015 1:42 PM
19	See bottom comments	11/11/2015 1:41 PM
20	Missing from MLS but expected on standardized tests as they revise to fit CCSS: Extend the domain of trigonometric functions using the unit circle 1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. 2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle	10/31/2015 8:40 PM
21	With Disclaimer	10/27/2015 9:02 AM

**Q63 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 60 Skipped: 194



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	43.33% 26	15.00% 9	38.33% 23	3.33% 2	60	2.02

#	Suggested revisions for standards:	Date
1	Clarifications on reporting answers: interval notation, "all real numbers", etc. Breadth is not depth.	12/2/2015 9:53 PM
2	It is very wide and all encompassing and to a fault..	12/2/2015 6:31 PM
3	completing the square and probability issues that are currently written in the geometry curriculum should be moved to algebra 2, as they are more appropriate there	12/2/2015 2:53 PM
4	HSN.RN.B.3 was taken out of the standards...why? The students are expected to understand this in A1.APR.F17...keep the standard.	12/2/2015 2:32 PM
5	There are too many topics for an Algebra class. "A mile wide, and an inch deep"--except that the standards seem to take it a mile wide and a mile deep.	12/2/2015 12:48 PM
6	I feel these are very appropriate and will be easy to incorporate and add into the current curriculum.	11/30/2015 3:35 PM
7	What?	11/30/2015 2:18 PM
8	Remove the requirement for completing the square as a method. Let a student use any method.	11/19/2015 2:33 PM
9	I agree with the above statement. I just don't agree that ALL students need the content when a vocational math course would be better.	11/17/2015 10:16 AM
10	Take some standards out. This is nearly impossible to cover in a school year to any degree success.	11/17/2015 10:08 AM
11	more precise	11/17/2015 9:13 AM
12	Same as mentioned above concerning Algebra 1. Algebra 2 and Geometry was appropriate.	11/13/2015 10:31 AM
13	See Overall Comments	11/11/2015 1:46 PM
14	see overall comment	11/11/2015 1:45 PM
15	see overall comments	11/11/2015 1:44 PM
16	SEE OVERALL COMMENTS	11/11/2015 1:43 PM

## HB1490 Work Group - Mathematics 6-12

17	see overall comments	11/11/2015 1:42 PM
18	See Comments in Overall Comments	11/11/2015 1:42 PM
19	Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence.	11/11/2015 1:42 PM
20	See bottom comments	11/11/2015 1:42 PM
21	See bottom comments	11/11/2015 1:41 PM
22	same as above	11/4/2015 10:03 AM
23	These standards appear to have been omitted and could put our students at a disadvantage on standardized tests such as the ACT and college placement tests as they conform to the CCSS: Extend the domain of trigonometric functions using the unit circle 1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. 2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle	10/31/2015 8:40 PM
24	Algebra 1 and Geometry have too much breadth. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle. Algebra 1 and Geometry should be about building a solid foundation. Algebra 2 is where they should be expected to produce a larger variety of skill.	10/27/2015 9:02 AM
25	There are a lot of standards listed under algebra 1. I think it over-encompasses. That's a lot of material to cover in an algebra 1 school year and expect students to have a clear understanding of all these standards. It seems like they may only have an introduction. Algebra 1 should be a course where students build a firm foundation of algebra to be prepared for the more advance algebra courses they will encounter in high school.	10/27/2015 8:57 AM

**Q64 Overall comments regarding the proposed standards for Algebra (High School):**

Answered: 33 Skipped: 221

#	Responses	Date
1	Please review the standards within the year, as an educator they sound great, but I want to teach depth not surface learning with too many topics. Please include an appendix with assessment samples for teachers and parents in student-friendly terms. How much application versus process problems will there be? Application problems take more time and provide students with productive struggle to increase understanding.	12/2/2015 9:53 PM
2	When need to focus on a strong foundation with algebra. A strong algebra foundation sets the table for the rest of mathematics. We need to cut the fluff and focus on retention and depth.	12/2/2015 6:31 PM
3	A1.NQ.B.3 (formerly HSN-Q.A.1) - the details given are absolutely necessary to understanding the intent. Thank you! I felt the current MLS had some redundancy and it appears some of that has been removed, e.g., HSA-SSE.B.3 and HSF-IF.C.8a were combined into A1.SSE.A.3. I felt the current MLS sometimes were not detailed enough but I am seeing more specificity, e.g., A1.CED.B.5 (formerly HSA-CED.A.2) now lists the type of equations required in Algebra I. I agree with Algebra I students recognizing "no real solution" as an appropriate response for a quadratic equation and NOT expecting them to write a solution as a complex number. Is Algebra I responsible for teaching only linear, quadratic, exponential and simple piecewise-defined functions? So absolute value functions, along with step functions, are introduced and taught in Algebra II? Are even and odd functions listed in any standard?	12/2/2015 3:11 PM
4	Take all the geometry standards about probability and move them to Algebra 2. The geometry standards which require completing the square for equations of circles and finding equations of parabolas with focus & directrix should be moved to Algebra 2.	12/2/2015 2:53 PM
5	These standards were reviewed by 2 instructional math coaches.	12/2/2015 2:32 PM
6	I still believe that the Algebra 1 standards have too much content in them. It contains approximately 50 standards and Algebra 2 only has 30 (and I realize that you can't quite compare them in a 1-1 manner, but I still feel that is a big discrepancy). Specifically, I believe Algebra 1 should focus mostly on Linear and Exponential Functions, and leave more of the Quadratics for Algebra 2. For quadratics I am fine with algebra 1 discussing second differences, do basic graphing, and solve by factoring (and possibly, possibly, completing the square to convert to vertex form to find max and min). However, I strongly oppose standards A1.REI.C9. d,e, and part of f. There is no reason for Algebra 1 students to derive the quadratic formula. I do that with my college algebra students and they struggle to keep up and understand the process. It is abstract and difficult algebraic work with all of the variables...your typical 8th and 9th grader will not fully comprehend that process...why waste their time? I do not think they need to solve by completing the square or solve by quadratic formula. Lets' save all of that for Algebra 2 (who will have plenty of time to teach it now that graphing rationals has been removed, logarithms have been pared back, and trig has been removed). I also think piecewise functions should be saved solely for Algebra 2 (standard A1.IF.C.7). Since Algebra 1 is the time for learning how to graph these functions individually and graph by transformations, we don't need to complicate the issue and have them graph piecewise. Let Algebra 1 students master the individual graphs. Then Algebra 2 can take them to the next level and graph the piecewise.	12/2/2015 8:55 AM
7	To much information to cover in one year.	11/30/2015 2:18 PM
8	I feel these are fair and accurate with what I am currently teaching in my classroom with the exception of the above mentioned item. These will be easy to implement and add into my current curriculum.	11/30/2015 10:19 AM
9	Are these the items that all students should know and be able to do. Again, I don't think Bill Gates, Barak Obama, or other important figures in our world could derive the quadratic formula and you think it is a requirement for an Algebra one student?	11/20/2015 3:02 PM
10	Reviewed by Katherine Morrison, teacher 8th Grade Algebra - 10 years	11/17/2015 4:55 PM
11	Something eventually has to give. We can't just keep adding more and more and not eliminating something.	11/17/2015 10:08 AM

## HB1490 Work Group - Mathematics 6-12

12	<p>Having two sets of standards in 7th and 8th grades (Grade 7 and Grade 7 accelerated, and Grade 8 and Grade 8 accelerated/Algebra 1) promotes students in Missouri receiving inequitable educational experiences. When inequity is promoted and sanctioned in state standards, privileged students are given the more rigorous curriculum while students who are oppressed and often discriminated are given less rigorous curriculum. This insures the continuance of achievement gaps between groups of students in Missouri. This may not be the intent of the authors of the Missouri Secondary Mathematics Learning Standards, but it will certainly be the outcome. Jeffrey R. Spiegel - Superintendent - Ferguson-Florissant Schools (retired)</p>	11/17/2015 8:22 AM
13	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:46 PM
14	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:45 PM
15	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:44 PM

## HB1490 Work Group - Mathematics 6-12

16	<p>Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? Algebra 2 MLO Concerns A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros.</p>	11/11/2015 1:44 PM
17	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list “ie., slope, intercepts, extreme values” shouldn't we include zeros and percent rate of change. Is “translate” a poor choice of words since in math it has a different meaning? Maybe it could read “Write a function in different but equivalent forms ...” A1.LQE.F.17: Believe we should have students both write and find terms of a sequence A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:44 PM
18	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list “ie., slope, intercepts, extreme values” shouldn't we include zeros and percent rate of change. Is “translate” a poor choice of words since in math it has a different meaning? Maybe it could read “Write a function in different but equivalent forms ...” A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:44 PM

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20	<p>A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list “ie., slope, intercepts, extreme values” shouldn't we include zeros and percent rate of change. Is “translate” a poor choice of words since in math it has a different meaning? Maybe it could read “Write a function in different but equivalent forms ...” A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:43 PM
21	<p>A2.NQ.A.2 Not only simplify and recognize, but should also include rewrite. A2.APR.A.7 You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1 Include trig function. Do not include cubed and square root and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:42 PM
22	<p>Algebra 1 MLO concerns A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written <math>y = ax^2 + bx + c</math>, shouldn't we write the simple quadratic as <math>y = ax^2 + c</math> since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read “general rules of arithmetic”? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list “ie., slope, intercepts, extreme values” shouldn't we include zeros and percent rate of change. Is “translate” a poor choice of words since in math it has a different meaning? Maybe it could read “Write a function in different but equivalent forms ...” A1.LQE.F.17: Believe we should have students both write and find terms of a sequence. Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the “leading term test” to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite “create functions and use them” to “Create appropriate functions to...” Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5</p>	11/11/2015 1:42 PM

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27	<p>Overall, I think the standards are good. The only issue I have found is with Completing the Square.</p>	11/10/2015 10:21 AM
28	<p>What is the purpose of A1.NQ.A.1 and A1.NQ.A.2? These standards seem to be on an island by themselves. How do they connect with other Algebra 1 standards?</p>	11/6/2015 7:51 AM

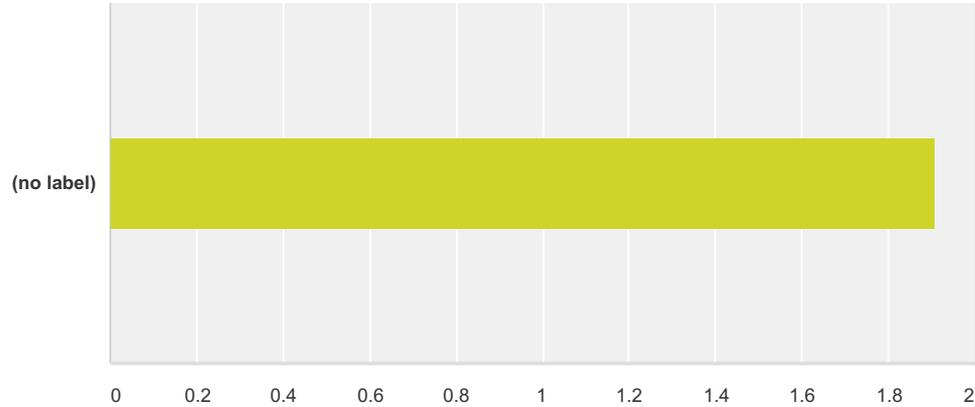
## HB1490 Work Group - Mathematics 6-12

29	Algebra I does belong in the Middle grades at the 8th grade level. For students who can grasp the concepts and are able to progress through the concepts at a proficient level. Those students should not be held back from being able to take higher level math coursework. Middle grades testing should not drive what classes are offered at the 8th grade level that eventually will effect the classes students will take before taking the ACT their junior year. Some districts are struggling with what classes should be offered for the eighth grade student, and where the students scores count for the district. Algebra I should be offered with the EOC scores counting for the district building in which the student takes the test.	11/4/2015 3:26 PM
30	There is no way for our Algebra 1 kids to master all of these concepts. Our hope is that someday, we will finally understand that teaching less well and achieving mastery of those concepts so that students can move on with a strong foundation, is better than teaching everything at a pace that very students achieve mastery. What have my students benefited from my class if I cover it all, but they master very little? My understanding behind the push for common core was to understand concepts at a much deeper level. We will never reach the deeper level of understanding if we attempt to teach all of the concepts you have suggested for Algebra 1.	11/4/2015 10:03 AM
31	Standards clearly follow the previous CLEs, which were a reference for CCSS. They are based on recommendations of NCTM Principals and Standards. Please end the political posturing that hinders the education of our youth, wastes money, and causes classroom teachers additional work without additional pay.	10/30/2015 3:52 PM
32	Algebra 1 and Geometry should be about building a solid foundation. Algebra 2 is where they should be expected to produce a larger variety of skill.	10/27/2015 9:02 AM
33	Too many standards for Algebra 1 (for ONE school year).	10/27/2015 8:57 AM

**Q66 The standards in this domain are developmentally appropriate.**

Data - High School

Answered: 11 Skipped: 243



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	45.45% 5	18.18% 2	36.36% 4	0.00% 0	11	1.91

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
2	A1.SSE.A.1: should this also include coefficients, exponents, A1.SSE.A.1: The crosswalk states that HSA-SSE.A.1 and HSF-IF.C.8b are included in this standard. I do not see the connection. If they are to be included then the standard needs to include more than it currently does. A1.CED.B.5: Considering the standard quadratic equation is written $y = ax^2 + bx + c$ , shouldn't we write the simple quadratic as $y = ax^2 + c$ since that is the letter that represents the constant? A1.REI.C.8: Add – Justify each step using properties of equality and inequalities. A1.REI.D.11: Clarification – since it reads quadratic function this means circles are no longer a part of this standard? A1.REI.E.14: Which types of equations are included in this standard? This is vague. A1.APR.F.17: should it read "general rules of arithmetic"? A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Include trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:43 PM
3	The addition of rational functions and working with those in Algebra 2 after not having been in the standards for a while is troublesome to find a balance of where and what to teach in Math Analysis now. The re-addition of them is necessary, but at what level and how deeply they will be tested is necessary to know how to integrate them back into a curriculum.	11/10/2015 10:27 AM

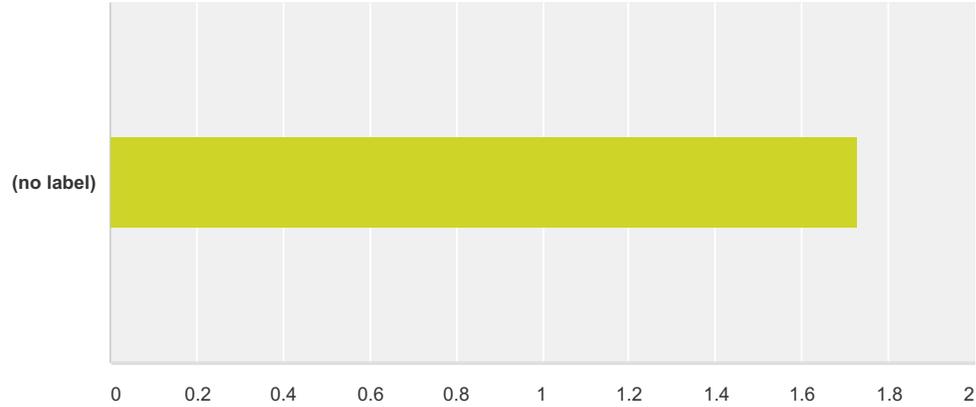
## HB1490 Work Group - Mathematics 6-12

4	<p>The Algebra 2 standards are fine. However, upon speaking with our Algebra 1 and Geometry teachers, there are some standards that should be included in Algebra 2, that are currently in those classes. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.</p>	10/29/2015 8:01 AM
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Data - High School

**Q67 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 11 Skipped: 243



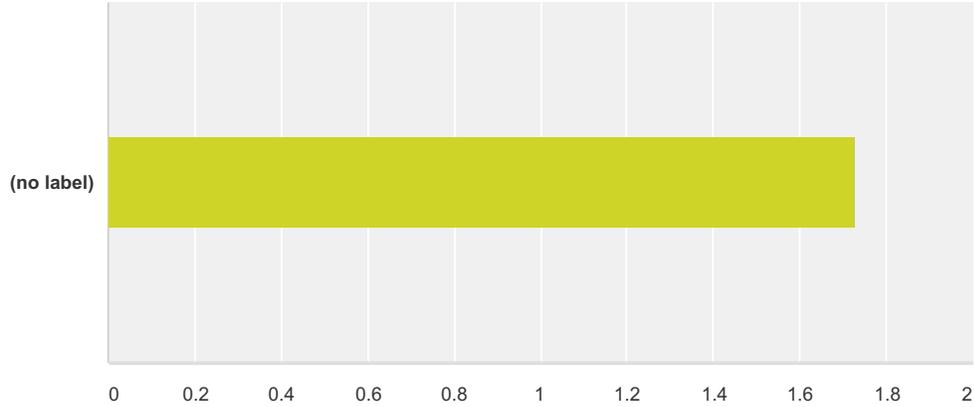
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.55% 6	18.18% 2	27.27% 3	0.00% 0	11	1.73

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
2	The path is coherent, but there are some standards that are being explored too early. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:01 AM

Data - High School

**Q68 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 11 Skipped: 243



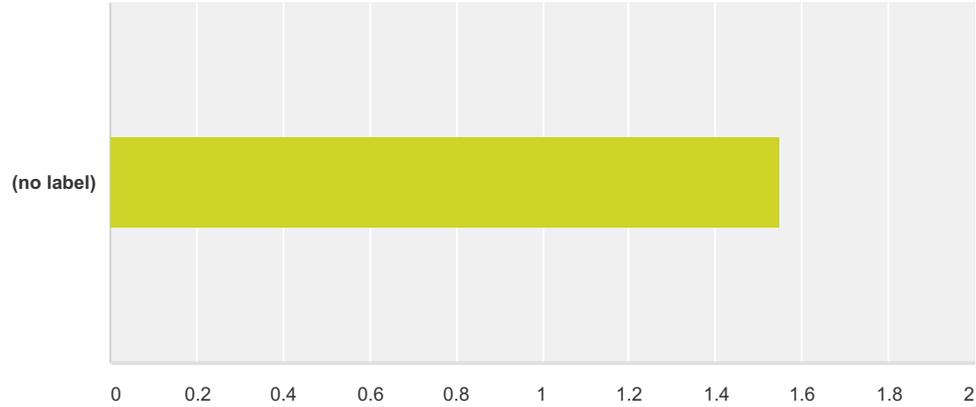
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.55% 6	18.18% 2	27.27% 3	0.00% 0	11	1.73

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
2	The Standards are too rigorous in the younger grades. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:01 AM

Data - High School

**Q69 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 11 Skipped: 243

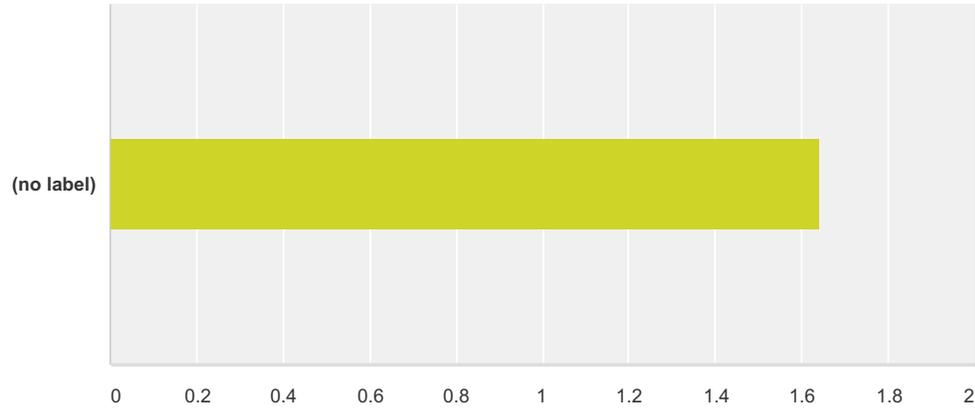


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	63.64% 7	18.18% 2	18.18% 2	0.00% 0	11	1.55

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM

**Q70 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 11 Skipped: 243



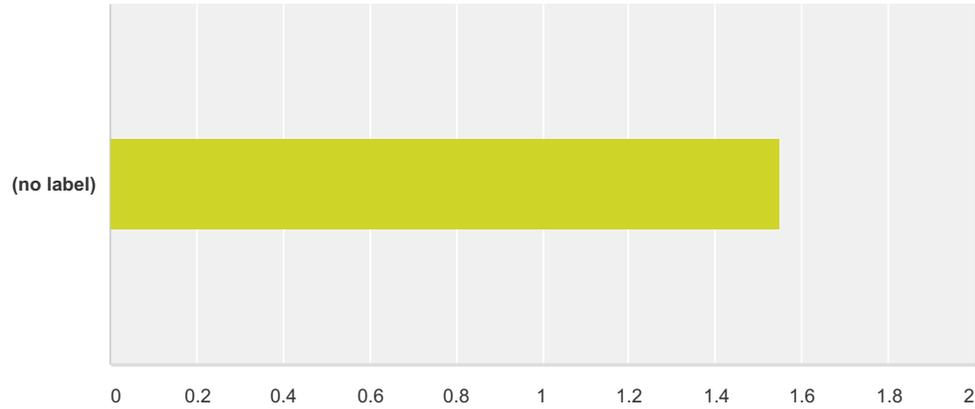
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.55% 6	27.27% 3	18.18% 2	0.00% 0	11	1.64

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
2	The Statistic Standards in the Make inferences and justify conclusion standards are a little confusing.	10/29/2015 8:01 AM

Data - High School

**Q71 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 11 Skipped: 243



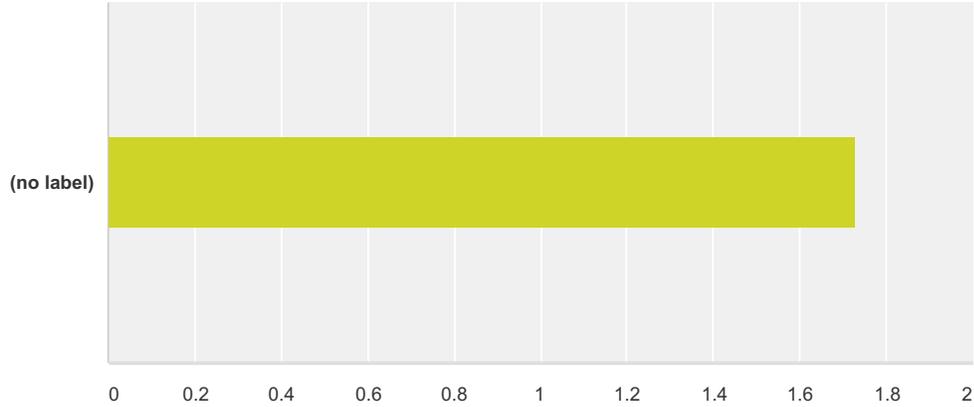
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	63.64% 7	18.18% 2	18.18% 2	0.00% 0	11	1.55

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM

Data - High School

**Q72 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 11 Skipped: 243



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	54.55% 6	18.18% 2	27.27% 3	0.00% 0	11	1.73

#	Suggested revisions for standards:	Date
1	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
2	Algebra 1 and Geometry have too much breadth. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle. Algebra 1 and Geometry should be about building a solid foundation. Algebra 2 is where they should be expected to produce a larger variety of skill.	10/29/2015 8:01 AM

Data - High School

## Q73 Overall comments regarding the proposed standards for Functions (High School):

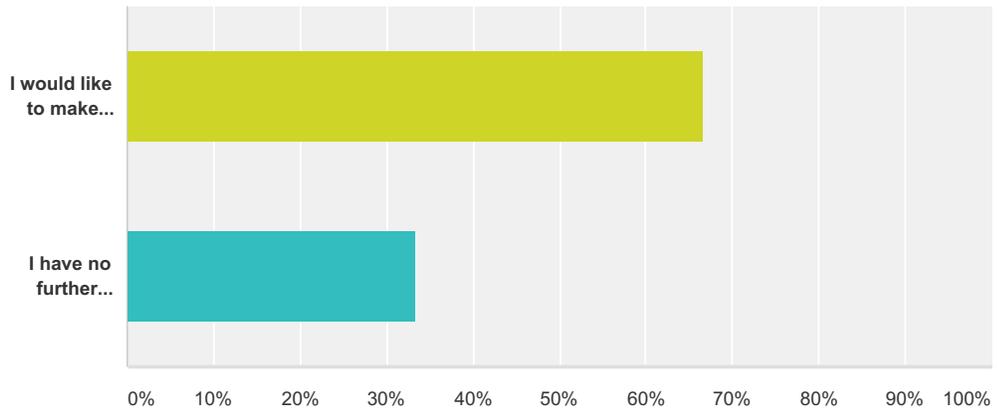
Answered: 6 Skipped: 248

#	Responses	Date
1	Is Algebra I responsible for teaching only linear, quadratic, exponential and simple piecewise-defined functions? So absolute value functions, along with step functions, are introduced and taught in Algebra II? Are even and odd functions listed in any standard?	12/2/2015 3:20 PM
2	Algebra 1 Concerns A1.IF.C.7: Simple quadratic and exponential functions are defined in A1.CED.B.5 – shouldn't they also be defined in this standard? A1.IF.C.8: in the list "ie., slope, intercepts, extreme values" shouldn't we include zeros and percent rate of change. Is "translate" a poor choice of words since in math it has a different meaning? Maybe it could read "Write a function in different but equivalent forms ...". Algebra 2 MLO Concerns A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
3	Algebra 2 MLO Concerns A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
4	A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:45 PM
5	I want to commend the 6-12 math committee. You were the only 6-12 committee that gave grade and course specific standards. This is very helpful. Thanks for taking the extra time to do this.	11/6/2015 1:53 PM
6	Standards clearly follow the previous CLEs, which were a reference for CCSS. They are based on recommendations of NCTM Principals and Standards. Please end the political posturing that hinders the education of our youth, wastes money, and causes classroom teachers additional work without additional pay.	10/30/2015 3:51 PM

Data - High School

**Q74 Please choose an option:**

Answered: 12 Skipped: 242

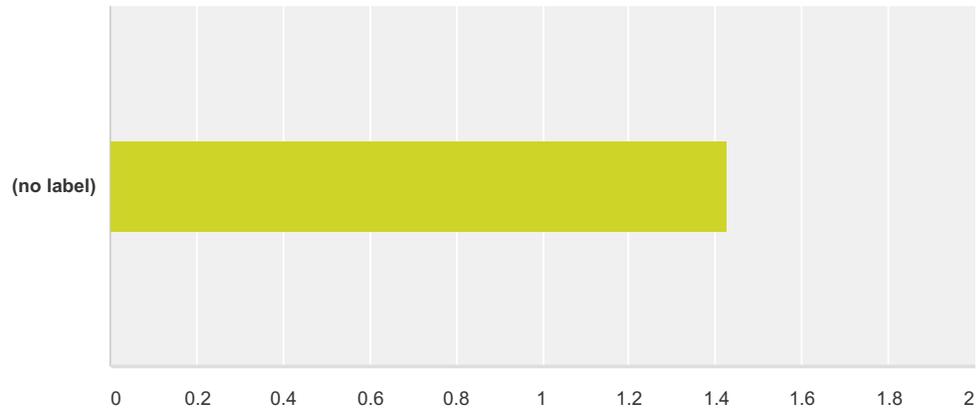


Answer Choices	Responses
I would like to make comments about another domain.	66.67% 8
I have no further comments to make on the HB1490 proposed standards for Mathematics.	33.33% 4
<b>Total</b>	<b>12</b>

Data - High School

**Q75 The standards in this domain are developmentally appropriate.**

Answered: 7 Skipped: 247



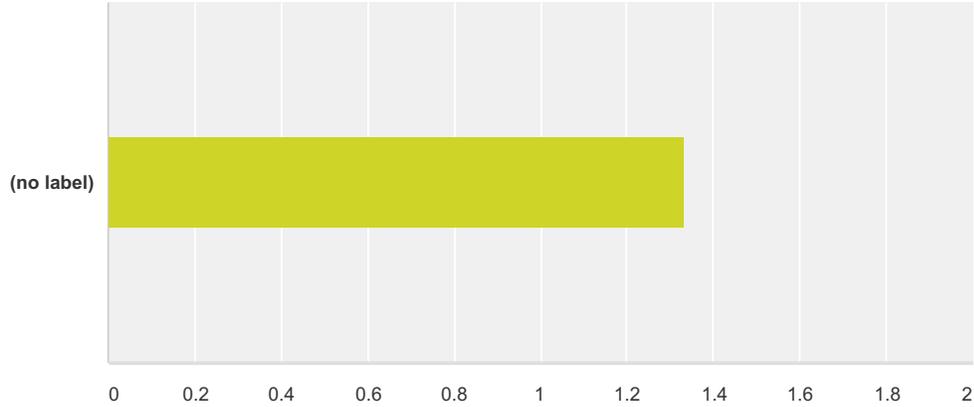
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	71.43% 5	14.29% 1	14.29% 1	0.00% 0	7	1.43

#	Suggested revisions for standards:	Date
1	The Algebra 2 standards are fine. However, upon speaking with our Algebra 1 and Geometry teachers, there are some standards that should be included in Algebra 2, that are currently in those classes. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:02 AM

Data - High School

**Q76 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 6 Skipped: 248



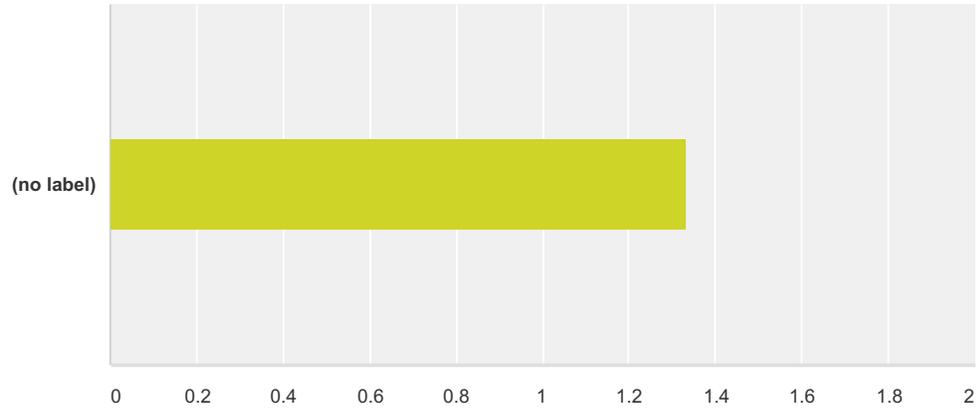
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	83.33% 5	0.00% 0	16.67% 1	0.00% 0	6	1.33

#	Suggested revisions for standards:	Date
1	The path is coherent, but there are some standards that are being explored too early. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:02 AM

Data - High School

### Q77 The standards set a rigorous path of high expectations for students at each grade level.

Answered: 6 Skipped: 248

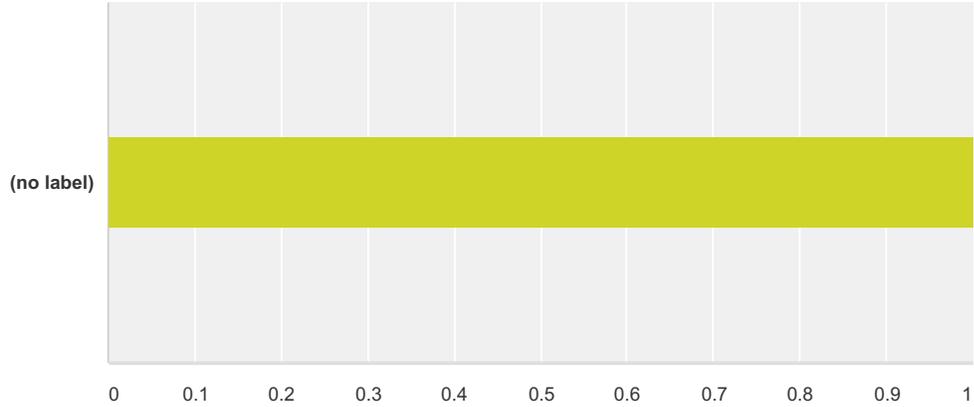


	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	83.33% 5	0.00% 0	16.67% 1	0.00% 0	6	1.33

#	Suggested revisions for standards:	Date
1	The Standards are too rigorous in the younger grades. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:02 AM

**Q78 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 6 Skipped: 248



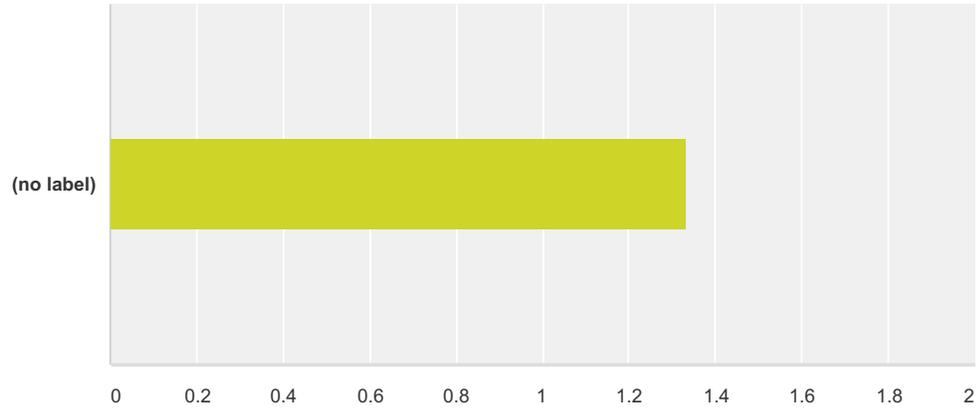
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	100.00% 6	0.00% 0	0.00% 0	0.00% 0	6	1.00

#	Suggested revisions for standards:	Date
	There are no responses.	

Data - High School

**Q79 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 6 Skipped: 248



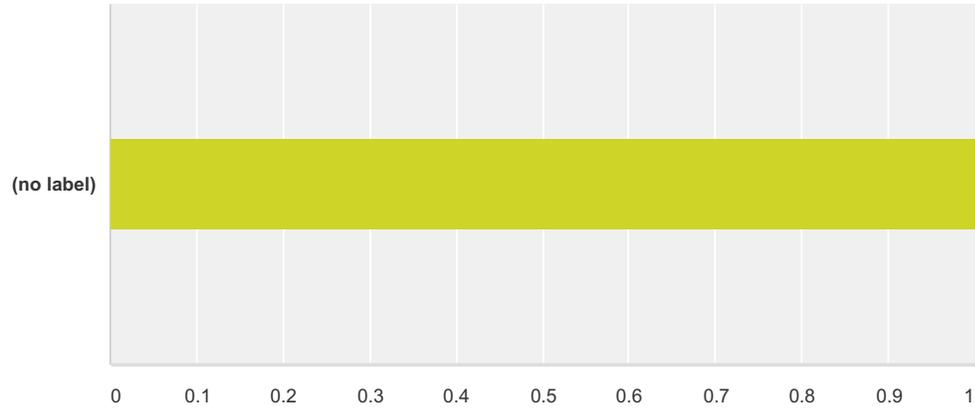
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	83.33% 5	0.00% 0	16.67% 1	0.00% 0	6	1.33

#	Suggested revisions for standards:	Date
1	The Statistic Standards in the Make inferences and justify conclusion standards are a little confusing.	10/29/2015 8:02 AM

Data - High School

**Q80 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 6 Skipped: 248



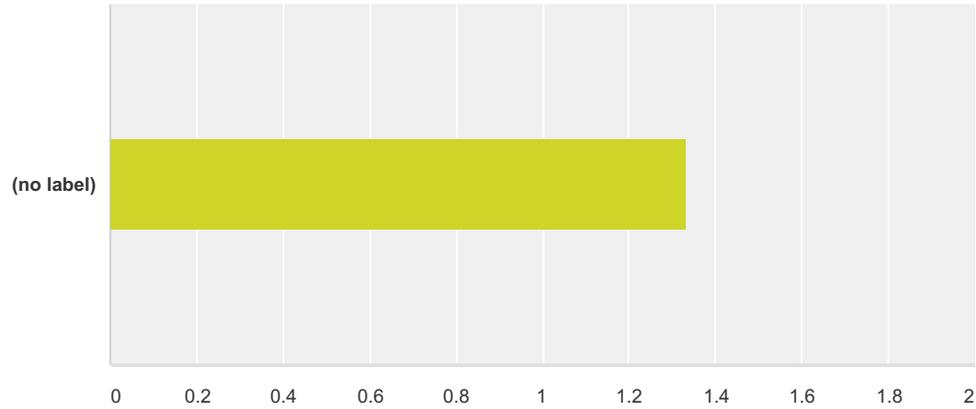
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	100.00% 6	0.00% 0	0.00% 0	0.00% 0	6	1.00

#	Suggested revisions for standards:	Date
	There are no responses.	

Data - High School

**Q81 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 6 Skipped: 248



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	83.33% 5	0.00% 0	16.67% 1	0.00% 0	6	1.33

#	Suggested revisions for standards:	Date
1	Algebra 1 and Geometry have too much breadth. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle. Algebra 1 and Geometry should be about building a solid foundation. Algebra 2 is where they should be expected to produce a larger variety of skill.	10/29/2015 8:02 AM

Data - High School

**Q82 Overall comments regarding the proposed standards for Data (High School):**

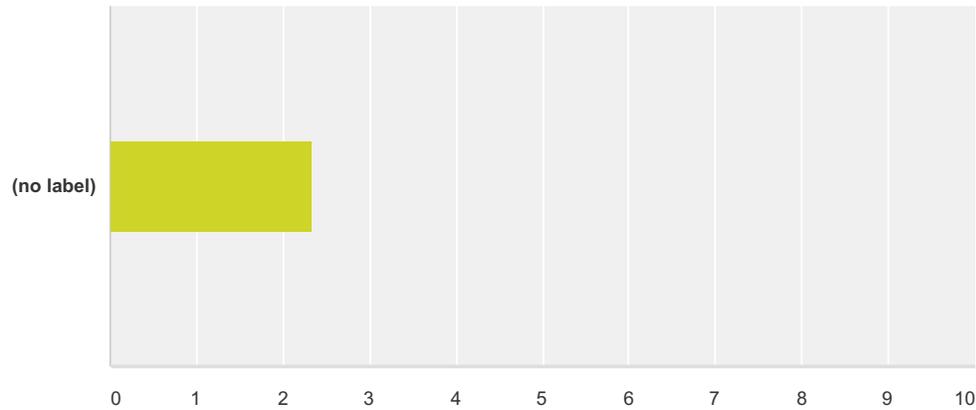
Answered: 3 Skipped: 251

#	Responses	Date
1	In every category the information seems to have been streamlined, reducing it's size, therefore enhancing the speed by which it can be traversed, without losing valuable data.	11/30/2015 1:30 PM
2	Standards clearly follow the previous CLEs, which were a reference for CCSS. They are based on recommendations of NCTM Principals and Standards. Please end the political posturing that hinders the education of our youth, wastes money, and causes classroom teachers additional work without additional pay.	10/30/2015 3:50 PM
3	Will the new standards mean a realign of the EOCs? For example the current Algebra 2 EOC blue print for Data doesn't match the old or new proposed Data standards for Algebra 2. It includes probability which is in the Geometry standards, not Algebra 2.	10/30/2015 1:39 PM

**Q84 The standards in this domain are developmentally appropriate.**

Geometry - High School

Answered: 35 Skipped: 219



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	22.86% 8	25.71% 9	45.71% 16	5.71% 2	35	2.34

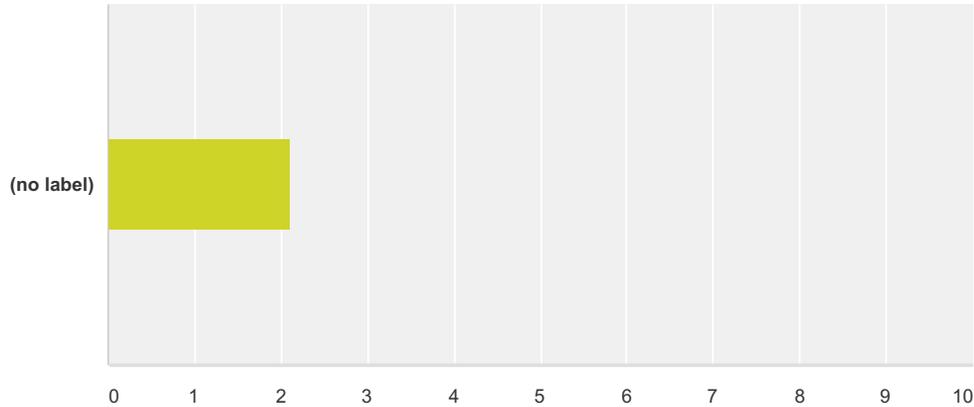
#	Suggested revisions for standards:	Date
1	Probability does not fit well into geometry courses. All the conditional probability & rules of probability standards need to be moved to an algebra course. In the section "Expressing Geometric Properties with Equations," the more algebraic concepts of completing the square to find the center and radius of a circle and deriving the equation of a parabola should be moved to an Algebra 2 course. Using the Pythagorean Theorem to derive the equation of a circle of given center and radius would be fine to leave in the geometry course.	12/2/2015 2:50 PM
2	Take out the use of "radian measure" - unclear if it applies to angle measure using a Unit Circle, which there is not time to address in a traditional 9th/10th grade Geometry course GCB4 - Derive, using similarity, the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as that constant of proportionality.	11/30/2015 2:36 PM
3	It is not clear to me if you are wanting formal or informal proofs of theorems. I don't think the majority of students are ready to do formal proofs of theorems.	11/30/2015 1:39 PM
4	9th and 10th graders struggle with understanding the conditional probability and the rules of probability domain in the Geometry course. This domain should be included in Algebra II with the data and statistical analysis domain. This change of instruction would allow more time to dig deeper and master the Geometry concepts, instead of rushing in order to fit everything in.	11/18/2015 4:36 PM
5	There is too much emphasis on transformations and proofs. There are far more important issues in Geometry that need to be addressed.	11/18/2015 10:09 AM
6	Please remove the upper level probability and statistics standards in the geometry section.	11/18/2015 10:06 AM
7	Since many of the schools across the state have geometry after algebra 1 and before algebra 2, I would expect a few of the standards to mention using algebraic properties to solve geometric problems. I understand the importance of understanding geometric concepts in geometry, but most problems on our test are using algebraic properties to solve geometric problems. As such, if the algebra skills are not reinforced, there is no point in the geometry skills since they will not be tested over pure geometry.	11/17/2015 9:29 AM
8	(Understand independence and conditional probability and use them to interpret data. Use the rules of probability to compute probabilities of compound events in a uniform probability model.) These sections need to be excluded and put in a statistics class. There is no time to do this in a high school geometry class.	11/13/2015 2:29 PM

## HB1490 Work Group - Mathematics 6-12

9	The standards are developmentally appropriate however they are too broad and to be able to cover in depth at this level.	11/11/2015 2:45 PM
10	see overall comments	11/11/2015 1:46 PM
11	see over all comments below	11/11/2015 1:45 PM
12	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:45 PM
13	See Overall Comment	11/11/2015 1:44 PM
14	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:44 PM
15	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
16	Remove G.GPE.A.2 This should be taught in a Conic Sections unit in a fourth level course.	11/2/2015 3:00 PM
17	Upon speaking with our Algebra 1 and Geometry teachers, there are some standards that should be included in Algebra 2, that are currently in those classes. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:04 AM
18	G.GPE.A.1 students are not exposed to completing the square or even what a parabola is much less the focus and directrix until Algebra II. G.CO.D.12 Not sure there is enough practice time allotted to these efficiently.	10/27/2015 8:56 AM

**Q85 The standards in this domain follow a coherent path through and across all grade levels.**

Answered: 36 Skipped: 218



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	30.56% 11	30.56% 11	36.11% 13	2.78% 1	36	2.11

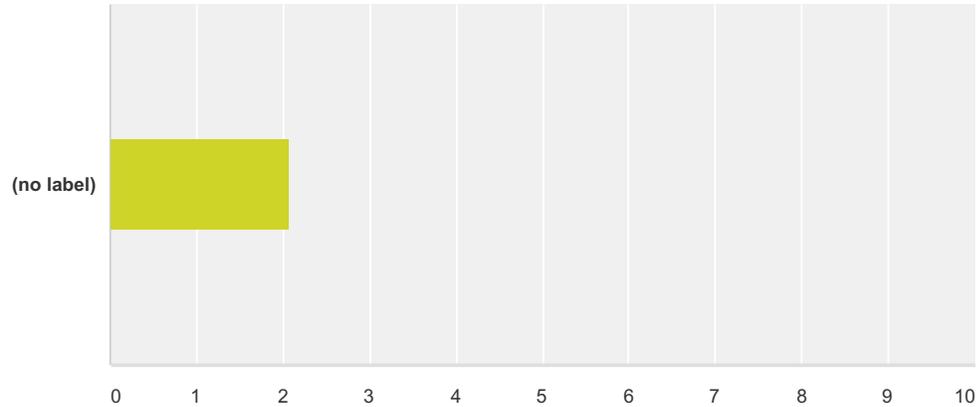
#	Suggested revisions for standards:	Date
1	move several items from geometry to algebra 2 -- the geometry curriculum looks extremely crowded and the algebra 2 curriculum looks very lean	12/2/2015 2:50 PM
2	Standards do not take into account the fact that students forget previously mastered concepts and time for reteaching/review must be given in order for students to be ready to learn the new material. Thus, time is an issue...the age-old argument!	11/30/2015 2:36 PM
3	I don't see how probability fits into geometry course.	11/30/2015 1:39 PM
4	The conditional probability and the rules of probability domain in the Geometry course is not coherent with the rest of the course. The students and teachers do not understand why it is placed in a geometry course that by definition is the study of shapes not data. Including it in the data and analysis domain at the Algebra II level would be more coherent.	11/18/2015 4:36 PM
5	Probability should be standards in Algebra 1 and 2 not geometry.	11/13/2015 2:54 PM
6	Probability should not be in geometry. It should be in Algebra 2.	11/13/2015 2:52 PM
7	The 8th grade standards are not appropriate for 8th grade - they are high school standards. We are not doing enough basics in the lower levels so there is no way they can do the critical thinking in a high school class.	11/13/2015 2:29 PM
8	It is important to remember when writing Geometry standards that students have not retained many of the concepts from previous classes at a mastery level because the last two classes in the math sequence have been Algebra 1 and Pre-Algebra. Even 7th grade mathematics is focused heavy on Algebra so that many students have had little formal Geometry teaching since 6th grade. This creates a situation where students feel that every topic is brand new and disjointed from what was taught last year. The standards should reflect this issue by being focused on a few Geometry topics that teacher can explore in depth. This is difficult because of the vast array of content knowledge available to be taught to students. These standards should be pared down so that teachers can teach depth instead of breadth.	11/11/2015 2:45 PM
9	see overall comments	11/11/2015 1:46 PM
10	see over all comments below	11/11/2015 1:45 PM
11	See Overall Comment	11/11/2015 1:44 PM

## HB1490 Work Group - Mathematics 6-12

12	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
13	Remove G.GPE.A.2 This should be taught in a Conic Sections unit in a fourth level course.	11/2/2015 3:00 PM
14	The path is coherent, but there are some standards that are being explored too early. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:04 AM
15	There seems to be some standards included that students would not be exposed to until higher level math classes.	10/27/2015 8:56 AM

**Q86 The standards set a rigorous path of high expectations for students at each grade level.**

Answered: 35 Skipped: 219



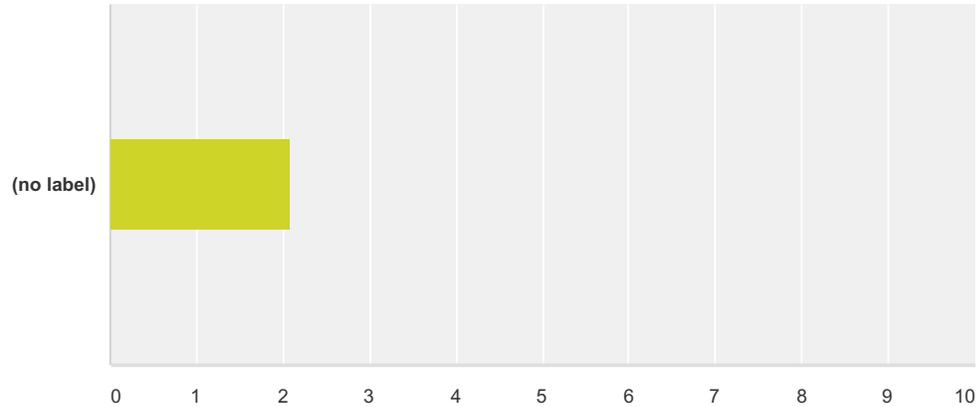
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	40.00% 14	25.71% 9	22.86% 8	11.43% 4	35	2.06

#	Suggested revisions for standards:	Date
1	Because standards do not take into account the fact that students forget previously mastered concepts and time for reteaching/review must be given in order for students to be ready to learn the new material, summer programs must be made available to jump start struggling students or the standardized test must be written with the average student in mind, not the advanced.	11/30/2015 2:36 PM
2	I don't see how probability fits into geometry. At times I don't think that formal proof is necessary for all students. Informal proof should be acceptable for the average student.	11/30/2015 1:37 PM
3	How does probability fit into geometry? Formal proof is not necessary for all students.	11/30/2015 1:37 PM
4	G.C.A.1 Really, why do students need to be able to complete a proof of similar circles? I feel just knowing the are similar is good enough but a formal proof is unnecessary.	11/19/2015 4:55 PM
5	Again, there is too much importance placed on transformations and proofs. Too much content is being left out. There is content that is not taught in Algebra 1 and expected to be used in geometry.	11/18/2015 10:09 AM
6	We need to go back to the basics in our lower grade levels.	11/13/2015 2:29 PM
7	see overall comments	11/11/2015 1:46 PM
8	see over all comments below	11/11/2015 1:45 PM
9	See Overall Comment	11/11/2015 1:44 PM
10	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
11	The Standards are too rigorous in the younger grades. In Algebra 1, A1.SSE.A.3, A1.REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle.	10/29/2015 8:04 AM
12	G.MG.A.2 and 3 seems to be a stretch both for understanding, application and time constraints	10/27/2015 8:56 AM

Geometry - High School

**Q87 The majority of the standards in this domain can be assessed in the classroom and/or on a state assessment.**

Answered: 36 Skipped: 218



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	33.33% 12	33.33% 12	25.00% 9	8.33% 3	36	2.08

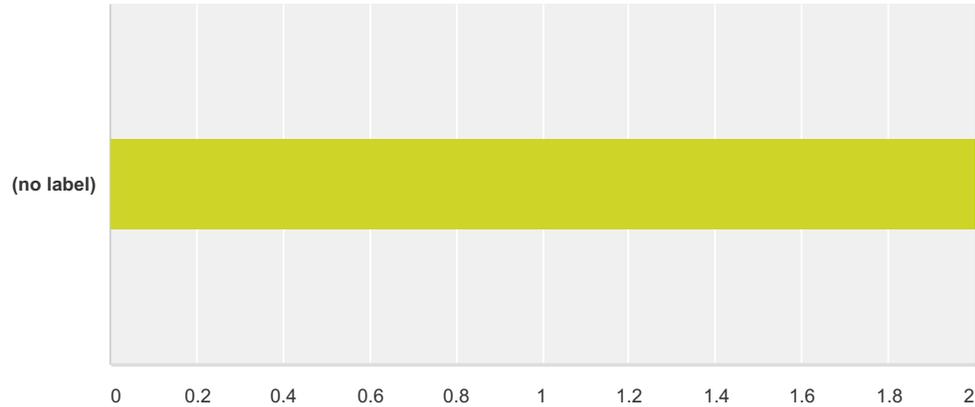
#	Suggested revisions for standards:	Date
1	it is difficult to assess geometric constructions on a state assessment, but this could be done in the classroom on an individual basis ... many of the teachers who are currently teaching in our district would need to be taught appropriate methods to construct with circle and straightedge & to assess these from student work	12/2/2015 2:50 PM
2	To "derive" the equation of a circle from given information is different from memorizing the equation of a circle and how to write it from given information. Not sure multiple choice is a good way to assess students' ability to derive...and not sure how to make measurement of a student's ability to derive easy to assess in a standardized test.	11/30/2015 2:36 PM
3	At the state level I do not see how you can assess constructions. Which things do you expect them to do by hand or by software.	11/30/2015 1:39 PM
4	I do not see how you are going to access constructions at the state level. How are we as teacher supposed to know where to use software and where to use paper pencil.	11/30/2015 1:37 PM
5	How do we access constructions using software?	11/30/2015 1:37 PM
6	G.CO.D.12 (Part b) Standard should address EXACTLY the constructions the students are expected to know and not examples. In other words, don't say "eg. regular hexagons inscribed in circles, equilateral triangles, squares"... change to "Construct a regular hexagon inscribed in a circle, an equilateral triangle, and a rectangle." Constructions are not necessarily intuitive so just let us know which ones we are required to teach as far as accountability goes and we will add the extras.	11/19/2015 4:55 PM
7	Again, there is too much importance placed on transformations and proofs. Too much content is being left out. There is content that is not taught in Algebra 1 and expected to be used in geometry.	11/18/2015 10:09 AM
8	How can you expect to test all of these skills? For local assessments, I can easily cover these skills, but if there are going to be state testing over these skills, consistently on the test only a few of the concepts while the rest are NEVER assessed. In the last four years of testing, I have never once seen a probability problem on the assessment, nor an arc or chord. How can we apply state and federal funding to a test that is not based on what we are supposed to be teaching?	11/17/2015 9:29 AM
9	Just because it can be assessed, doesn't mean that they will do well.	11/13/2015 2:29 PM

## HB1490 Work Group - Mathematics 6-12

10	Many of these standards are not able to be assessed on a state test. Since the standards are so broad, teachers are left guessing which content to emphasize in their classroom. Teachers must then hope that they chose the correct standards to emphasize when state testing rolls around. Many important concepts are left out because of the difficulty in creating an assessment. In geometry one topic that is often left out by teachers is constructions. This is because teachers feel pressure to teach to the test.	11/11/2015 2:45 PM
11	see overall comments	11/11/2015 1:46 PM
12	see over all comments below	11/11/2015 1:45 PM
13	See Overall Comment	11/11/2015 1:44 PM
14	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM

**Q88 The standards in this domain are understandable to educators and explainable to parents and other stakeholders.**

Answered: 35 Skipped: 219



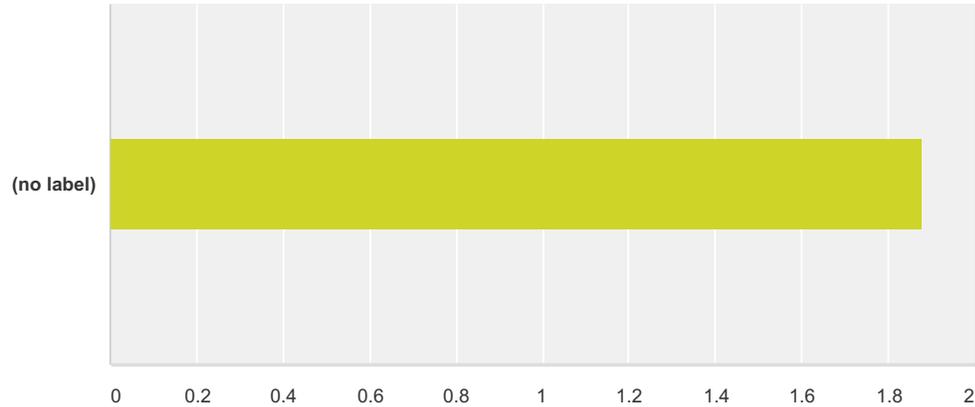
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	37.14% 13	34.29% 12	20.00% 7	8.57% 3	35	2.00

#	Suggested revisions for standards:	Date
1	The standards seem to be written with the advanced student in mind. I truly believe in challenging students and pushing them to achieve greater and greater goals. That's why I teach. What I am nervous about is how I as a teacher will be evaluated knowing I have very "normal" students in my classroom. What I will be able to reach and accomplish and feel good about as far as their mastery in class is far different than the progress I would be able to make in a truly advanced class or as an individual tutor. I cannot, with good conscience, make my classes go at the speed these standards would require.	11/30/2015 2:36 PM
2	There are some terms that I don't think parents will understand such as directed line segments, Cavalleris principle. Are radians necessary in a basic geometry course. When we are talking about inscribing and circumscribe a triangle just talking about the incenter and circumcenter.	11/30/2015 1:37 PM
3	Some terms are not clear for parents. Radian measure is not necessary in a basic geometry class.	11/30/2015 1:37 PM
4	G.SRT.A.1 I really have no idea how to "dilata a line". I can dilate a line segment but not sure what "dilata a line" means. I would eliminate the standard completely. Unnecessary standard. G.C.B.4 Referring to "length of the arc intercepted by an angle is proportional to the radius" - I think you should add CENTRAL angle and not just "angle".	11/19/2015 4:55 PM
5	Again, there is too much importance placed on transformations and proofs. Too much content is being left out. There is content that is not taught in Algebra 1 and expected to be used in geometry.	11/18/2015 10:09 AM
6	Just because I understand it and can explain it, doesn't mean that my parents will understand this level.	11/13/2015 2:29 PM
7	see overall comments	11/11/2015 1:46 PM
8	see over all comments below	11/11/2015 1:45 PM
9	See Overall Comment	11/11/2015 1:44 PM
10	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
11	The Statistic Standards in the Make inferences and justify conclusion standards are a little confusing.	10/29/2015 8:04 AM

Geometry - High School

**Q89 The standards in this domain represent the necessary content for a student to reach college and/or career readiness upon graduation.**

Answered: 34 Skipped: 220



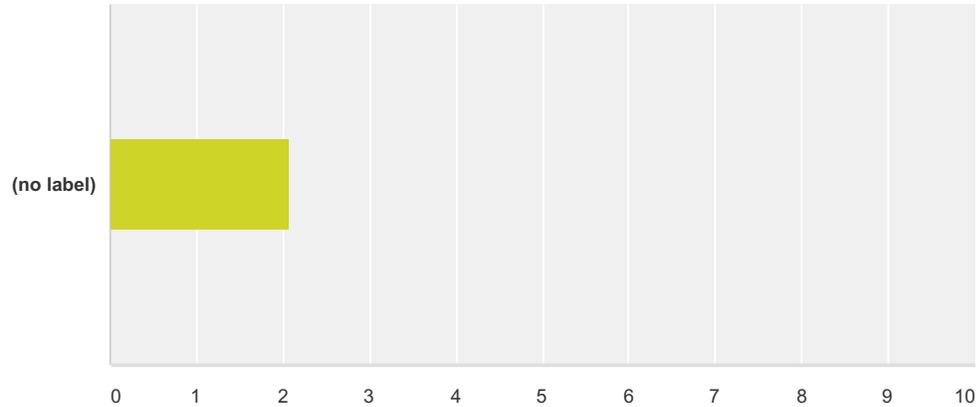
	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	47.06% 16	23.53% 8	23.53% 8	5.88% 2	34	1.88

#	Suggested revisions for standards:	Date
1	Students will not be ready for college and/or careers with significant gaps in their basic content knowledge. I have addressed many students, for example, who cannot factor a quadratic expression and yet they are studying to take the ACT! (Juniors and Seniors, college bound) When a teacher plans classroom instruction with the necessity of addressing all content in the time provided, mastery for the average student is usually not achieved, at least not for the long term.	11/30/2015 2:36 PM
2	Again, there is too much importance placed on transformations and proofs. Too much content is being left out. There is content that is not taught in Algebra 1 and expected to be used in geometry.	11/18/2015 10:09 AM
3	Omit the statistics part - save it for a statistics class.	11/13/2015 2:29 PM
4	The standards chosen are important. At the same time many will never be used in college or career readiness. A newer standard that has been added in the last few years is G.GPE.B.5. Until a couple of years I had never even considered this situation except for midpoint. To add this to my curriculum takes a couple of days. Which doesn't seem like much however it adds up over time. This is a great topic and it does have its uses however some good topics need to be cut by the standards committee instead of making teachers guess and choose which topics to cover as the time in the school year is not sufficient for this content.	11/11/2015 2:45 PM
5	see overall comments	11/11/2015 1:46 PM
6	see over all comments below	11/11/2015 1:45 PM
7	See Overall Comment	11/11/2015 1:44 PM
8	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM

Geometry - High School

**Q90 The standards in this domain are accurate and encompass the breadth of the content.**

Answered: 34 Skipped: 220



	1. Standards are acceptable as is. Overall the standards are listed at the appropriate grade level.	2. Standards are acceptable, edits would improve, but are not mandatory. Very few (minor) issues.	3. Standards are acceptable after they are revised as suggested immediately below.	4. Standards require complete rewrite. Majority of standards are at inappropriate grade levels.	Total	Weighted Average
(no label)	32.35% 11	38.24% 13	20.59% 7	8.82% 3	34	2.06

#	Suggested revisions for standards:	Date
1	Too much is in the geometry curriculum. There is too much advanced algebra content for our students, as they generally take geometry before the second year of algebra.	12/2/2015 2:50 PM
2	Be realistic about what the average student will/can achieve. Have advanced objectives for advanced/weighted classes.	11/30/2015 2:36 PM
3	Where do special quadrilaterals fit into the parallelograms such as rhombus and squares.	11/30/2015 1:39 PM
4	I did not see any mention of properties of special quadrilaterals such as rhombus or square.	11/30/2015 1:37 PM
5	Again, there is too much importance placed on transformations and proofs. Too much content is being left out. There is content that is not taught in Algebra 1 and expected to be used in geometry.	11/18/2015 10:09 AM
6	The probability and statistics standards that are stated do not belong in the geometry content. Some items do such as probability problems involving area.	11/18/2015 10:06 AM
7	See above about algebra and geometry.	11/17/2015 9:29 AM
8	The standards to cover the breadth of content however that breadth is to much to be contained in a single year class.	11/11/2015 2:45 PM
9	see overall comments	11/11/2015 1:46 PM
10	see over all comments below	11/11/2015 1:45 PM
11	See Overall Comment	11/11/2015 1:44 PM
12	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
13	Algebra 1 and Geometry have too much breadth. In Algebra 1, A1.SSE.A.3, A1REI.C.9, A1.1F.C.7, should be included in Algebra 2. Those are Quadratic Formula, Completing the Square, and Piece-wise Functions. In Geometry, G.GPE.A.1 and G.GPE.A.2. Those are completing the square to graph a parabola and circle. Algebra 1 and Geometry should be about building a solid foundation. Algebra 2 is where they should be expected to produce a larger variety of skill.	10/29/2015 8:04 AM

HB1490 Work Group - Mathematics 6-12

Geometry - High School

**Q91 Overall comments regarding the proposed standards for Geometry (High School):**

Answered: 25 Skipped: 229

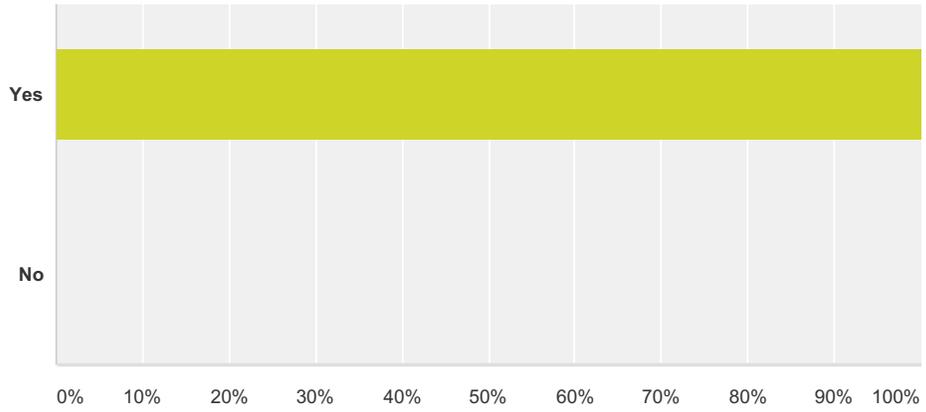
#	Responses	Date
1	Please fix your numbering/lettering system!!! It drives math people crazy!!! Take out content that does not pertain directly to geometry, as this curriculum has a large number of standards to address in one year anyway.	12/2/2015 2:50 PM
2	In a perfect world, they are great. I would LOVE to help my Geometry students master every one of these concepts and have the thrill of understanding them to a deeper level. I am mostly concerned about how teachers will be evaluated on the implementation of these extremely rigorous standards when they are teaching 30+ students of average ability in a 45-minute per day classroom setting.	11/30/2015 2:36 PM
3	There is a lot of information to be covered in a year and how is it all going to get covered in the depth that we are being asked.	11/30/2015 1:39 PM
4	There seems to be a lot of standards to be covered and i don't see how they all can be covered properly in a school year.	11/30/2015 1:37 PM
5	There seems to be a lot of standards to cover in one school year.	11/30/2015 1:37 PM
6	The conditional probability and the rules of probability domain in the Geometry course is not coherent with the rest of the course nor grade-level appropriate. Geometry, the study of shapes and spatial sense, does lead one to learn about data analysis and would require extra background information, which is not allotted in the course of one year. Including it in the data and analysis domain at the Algebra II level would be more coherent. It would also create more instruction time to go more in depth and master Geometry concepts. Having the standards aligned to the Common Core Standards, allows teachers and students to have access to many more research-based materials to teach and learn from because it is nationwide. It also gives our students and schools accreditation and accountability across the nation. Some of the proposed standards have added clarity, specifying what needs to be taught, which is helpful.	11/18/2015 4:36 PM
7	Someone needs to have some common sense about the standards. We are not focusing on the important aspects of geometry. Transformations and proofs are important. But, the standards are taking it too far. These are not the only important concepts. This needs to be addressed and rewritten.	11/18/2015 10:09 AM
8	As stated above, I feel that the probability and statistics standards that are stated do not belong in a geometry course. There simply is not the time to cover all of the geometry standards and the prob/stat. standards as well. The standards for Mathematics are a mile wide with time to only go an inch deep.	11/18/2015 10:06 AM
9	Overall, at least for geometry, I see little to no difference between MLS, CC, and the new standards. If you are spending money to rewrite standards that aren't going to change, I think you should ask for your money back.	11/17/2015 9:29 AM
10	Omit the statistics part - save it for a statistics class.	11/13/2015 2:29 PM
11	These standards are still very broad and do not meet the goal to focus the curriculum. High school geometry is a difficult subject for students and should be the focus of the curriculum. Instead each new iteration adds new types of geometry problems, additional algebra practice, and probability and statistics concepts. Algebra, probability, and statistics are important course work for students but this material does not belong in this course. Instead of meeting the goal of creating a more focused curriculum where teachers can provide instruction with depth and substance the new standards have continued to add to the breadth of content that is detrimental to our educational system. My suggestion for cutting standards would be to eliminate all of the data standards from Geometry and many of the coordinate geometry concepts. Probability and statistics deserves its own class. Coordinate geometry is already studied in Algebra class. Geometry has a very large range of topics to cover and some really good standards need to be eliminated.	11/11/2015 2:45 PM
12	F.CO.B.8 We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:46 PM
13	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:45 PM
14	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA, and the language of the standard states we only want the minimum requirements to determine triangles are congruent.	11/11/2015 1:45 PM
15	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:44 PM

## HB1490 Work Group - Mathematics 6-12

16	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:44 PM
17	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:44 PM
18	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
19	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
20	Geometry MLO concerns G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:43 PM
21	A2.NQ.A.2: Not only simplify and recognize, but should also include rewrite A2.APR.A.7: You also need the "leading term test" to construct a rough graph, not just zeros. A2.IF.A.1: Included trig function. Do not include cubed and square root, and step functions. A2.BF.B.3: Derive seems unnecessarily complicated versus find. What is included as a simple function? This is too vague of a term and up to individual interpretation. A2.BF.B.4: No not include cube and square root in transformations. A2.FM.C.5: Rewrite "create functions and use them" to "Create appropriate functions to..." Standards that should be included but were left out: HSA-SSE.B.4 series, HSF-TF.A.1, HSF-TF.A.2 and HSF-TF.B.5	11/11/2015 1:43 PM
22	G.CO.B.8: We should not include AAS for triangle congruence because it just an extension of ASA	11/11/2015 1:42 PM
23	I am in a professional development meeting right now and am being told to make comments - so this is what I have to say - I'm not worried about how these standards are written, I will teach what you tell me to teach, and I know they will change again in a few years anyway.	11/11/2015 1:38 PM
24	The reorganization to course specific content at the high school level is helpful especially for new teachers.	11/10/2015 10:16 AM
25	Standards clearly follow the previous CLEs, which were a reference for CCSS. They are based on recommendations of NCTM Principals and Standards. Geometry has not changed, please end the political posturing that hinders the education of our youth, wastes money, and causes classroom teachers additional work without additional pay.	10/30/2015 3:52 PM

### Q93 Do you work or reside in Missouri?

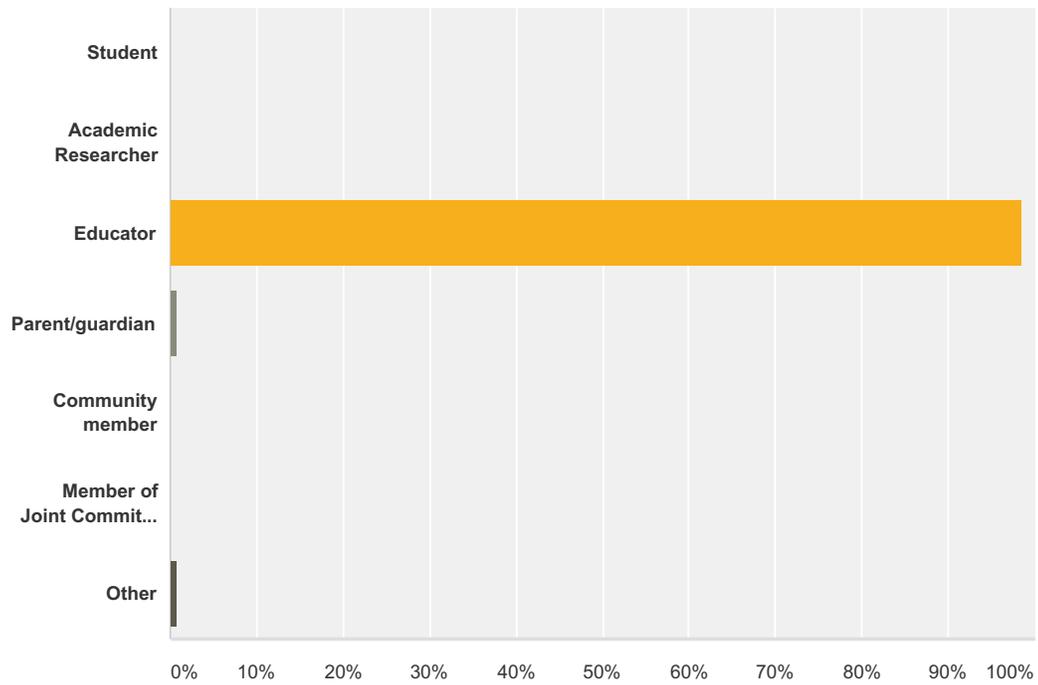
Answered: 131 Skipped: 123



Answer Choices	Responses
Yes	100.00% 131
No	0.00% 0
<b>Total</b>	<b>131</b>

### Q94 How might you define your relationship to Missouri schools?

Answered: 131 Skipped: 123



Answer Choices	Responses
Student	0.00% 0
Academic Researcher	0.00% 0
Educator	98.47% 129
Parent/guardian	0.76% 1
Community member	0.00% 0
Member of Joint Committee on Education	0.00% 0
Other	0.76% 1
<b>Total</b>	<b>131</b>

## Q95 What is your work or residential zip code?

Answered: 128 Skipped: 126

#	Responses	Date
1	64012	12/2/2015 9:54 PM
2	65706	12/2/2015 6:32 PM
3	64086	12/2/2015 3:38 PM
4	65536	12/2/2015 3:09 PM
5	65026	12/2/2015 2:53 PM
6	65721	12/2/2015 2:32 PM
7	65721	12/2/2015 2:19 PM
8	64080	12/2/2015 1:00 PM
9	63755	12/2/2015 8:55 AM
10	63801	12/1/2015 11:17 PM
11	63869	12/1/2015 7:28 PM
12	65023	12/1/2015 6:07 PM
13	65721	11/30/2015 4:56 PM
14	63736	11/30/2015 3:35 PM
15	64720	11/30/2015 2:36 PM
16	63801	11/30/2015 2:18 PM
17	63801	11/30/2015 1:51 PM
18	63801	11/30/2015 1:39 PM
19	63801	11/30/2015 1:38 PM
20	63801	11/30/2015 1:37 PM
21	63822	11/30/2015 1:33 PM
22	63501	11/30/2015 1:30 PM
23	63501	11/30/2015 1:11 PM
24	63556	11/30/2015 12:39 PM
25	64080	11/30/2015 10:24 AM
26	64080	11/30/2015 10:24 AM
27	63701	11/30/2015 10:23 AM
28	65672	11/24/2015 2:08 PM
29	64734	11/23/2015 8:42 AM
30	63556	11/21/2015 11:16 AM
31	63556	11/21/2015 11:15 AM
32	63556	11/21/2015 11:14 AM
33	63556	11/21/2015 11:13 AM
34	63556	11/21/2015 11:12 AM

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35	63080	11/20/2015 3:15 PM
36	64870	11/20/2015 3:02 PM
37	63857	11/20/2015 9:13 AM
38	63080	11/20/2015 8:33 AM
39	65721	11/19/2015 4:56 PM
40	63017	11/19/2015 2:34 PM
41	64752	11/19/2015 2:33 PM
42	65721	11/18/2015 5:24 PM
43	65757	11/18/2015 4:40 PM
44	65606	11/18/2015 1:05 PM
45	63829	11/18/2015 10:09 AM
46	63640	11/18/2015 10:06 AM
47	65721	11/17/2015 6:00 PM
48	65714	11/17/2015 4:56 PM
49	65721	11/17/2015 4:55 PM
50	64779	11/17/2015 4:01 PM
51	64093	11/17/2015 10:41 AM
52	64020	11/17/2015 10:40 AM
53	64831	11/17/2015 10:19 AM
54	64831	11/17/2015 10:15 AM
55	64831	11/17/2015 10:08 AM
56	64801	11/17/2015 9:31 AM
57	64831	11/17/2015 9:29 AM
58	64850	11/17/2015 9:13 AM
59	65661	11/17/2015 8:45 AM
60	63122	11/17/2015 8:23 AM
61	64063	11/15/2015 2:39 PM
62	64865	11/13/2015 2:54 PM
63	64865	11/13/2015 2:53 PM
64	64850	11/13/2015 2:29 PM
65	63755	11/13/2015 11:20 AM
66	63841	11/13/2015 11:06 AM
67	63755	11/13/2015 10:43 AM
68	63730	11/13/2015 10:32 AM
69	63025	11/12/2015 9:25 AM
70	65706	11/12/2015 9:17 AM
71	64105	11/11/2015 3:07 PM
72	64138	11/11/2015 3:05 PM
73	64138	11/11/2015 2:56 PM
74	64080	11/11/2015 2:45 PM
75	64133	11/11/2015 2:36 PM

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76	64138	11/11/2015 1:48 PM
77	64133	11/11/2015 1:47 PM
78	64133	11/11/2015 1:46 PM
79	64133	11/11/2015 1:46 PM
80	64133	11/11/2015 1:46 PM
81	64138	11/11/2015 1:46 PM
82	64063	11/11/2015 1:46 PM
83	64133	11/11/2015 1:45 PM
84	64138	11/11/2015 1:45 PM
85	64133	11/11/2015 1:45 PM
86	64064	11/11/2015 1:45 PM
87	64133	11/11/2015 1:45 PM
88	64133	11/11/2015 1:44 PM
89	64133	11/11/2015 1:44 PM
90	64133	11/11/2015 1:43 PM
91	64133	11/11/2015 1:43 PM
92	64133	11/11/2015 1:42 PM
93	64133	11/11/2015 1:41 PM
94	64093	11/10/2015 10:30 AM
95	64093	11/10/2015 10:28 AM
96	64093	11/10/2015 10:26 AM
97	64093	11/10/2015 10:22 AM
98	64093	11/10/2015 10:20 AM
99	64093	11/10/2015 10:16 AM
100	64093	11/10/2015 10:16 AM
101	64093	11/10/2015 10:14 AM
102	65714	11/6/2015 10:20 AM
103	65567	11/6/2015 7:55 AM
104	63025	11/6/2015 7:51 AM
105	64012	11/5/2015 12:27 PM
106	63401	11/4/2015 3:26 PM
107	64133	11/4/2015 2:17 PM
108	64034	11/4/2015 1:52 PM
109	65251	11/4/2015 12:44 PM
110	65613	11/4/2015 10:03 AM
111	64836	11/4/2015 9:31 AM
112	64850	11/4/2015 9:11 AM
113	65613	11/4/2015 8:37 AM
114	63857	11/3/2015 3:37 PM
115	65807	11/3/2015 9:52 AM
116	65583	11/2/2015 7:28 PM

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117	63025	11/2/2015 3:40 PM
118	64836	11/2/2015 3:08 PM
119	64836	11/2/2015 3:02 PM
120	65738	11/2/2015 2:32 PM
121	63304	10/31/2015 8:40 PM
122	64671	10/30/2015 3:52 PM
123	63016	10/30/2015 1:39 PM
124	63114	10/30/2015 12:32 PM
125	64644	10/29/2015 8:04 AM
126	64644	10/27/2015 9:02 AM
127	64644	10/27/2015 8:57 AM
128	64644	10/27/2015 8:57 AM

**Q96 Which Missouri department of higher education institute do you represent?**

Answered: 0 Skipped: 254

#	Responses	Date
	There are no responses.	

**Q97 What is your current role at this institution?**

Answered: 0 Skipped: 254

#	Responses	Date
	There are no responses.	

### Q98 How long have you worked in higher education?

Answered: 0 Skipped: 254

! No matching responses.

Answer Choices	Responses
0-5 Years	0.00% 0
6-10 Years	0.00% 0
11-15 Years	0.00% 0
16-20 Years	0.00% 0
20+ Years	0.00% 0
<b>Total</b>	<b>0</b>

**Q99 List any current course(s) you teach:**

Answered: 0 Skipped: 254

#	Responses	Date
	There are no responses.	

**Q100 Name:**

Answered: 0 Skipped: 254

#	Responses	Date
	There are no responses.	