

Missouri End-of-Course Assessment Achievement Level Descriptors

Geometry

Achievement Levels

Advanced: Students performing at the Advanced level on the Missouri Geometry End-of-Course Assessment demonstrate a thorough understanding of the course-level expectations for Geometry. They demonstrate these skills in algebraic relationships, geometric and spatial relationships, and measurement. In addition to understanding and applying the skills at the Proficient level, students scoring at the Advanced level use a wide range of strategies to solve problems and demonstrate a thorough understanding of important mathematical content and concepts.

Scale Score: 225-250

Proficient: Students performing at the Proficient level on the Missouri Geometry End-of-Course Assessment demonstrate an understanding of most of the course-level expectations for Geometry. They demonstrate these skills in algebraic relationships, geometric and spatial relationships, and measurement. In addition to understanding and applying the skills at the Basic level, students scoring at the Proficient level use a range of strategies to solve problems and demonstrate an understanding of important mathematical content and concepts.

Scale Score: 200-224

Basic: Students performing at the Basic level on the Missouri Geometry End-of-Course Assessment demonstrate some understanding of the course-level expectations for Geometry. They demonstrate these skills in algebraic relationships, geometric and spatial relationships, and measurement. In addition to understanding and applying the skills at the Below Basic level, students scoring at the Basic level use some strategies to solve problems and demonstrate some understanding of important mathematical content and concepts.

Scale Score: 182-199

Below Basic: Students performing at the Below Basic level on the Missouri Geometry End-of-Course Assessment demonstrate a limited understanding of the course-level expectations for Geometry. They demonstrate these skills in algebraic relationships, geometric and spatial relationships, and measurement. In addition to demonstrating these skills, students scoring at the Below Basic level use very few strategies to solve problems and demonstrate a limited understanding of important mathematical content and concepts.

Scale Score: 100-181

Achievement Descriptors

Advanced

Scale Score: 225-250

Algebraic Relationships—Using algebraic relationships, a student can

- ✓ Compare and contrast various forms of representations of patterns (exponential)

Geometric and Spatial Relationships—Using geometric and spatial relationships, a student can

- ✓ Use inductive and deductive reasoning to prove theorems and critique arguments made by others
- ✓ Make conjectures involving 2-dimensional objects represented with Cartesian coordinates
- ✓ Apply constructions and the coordinate plane to represent translations, reflections, rotations, and dilations of objects
- ✓ Draw vertex-edge graphs or networks to find optimal solutions
- ✓ Draw representations of 3-dimensional geometric objects from different perspectives

Measurement—Using measurement relationships, a student can

- ✓ Solve problems of angle measure involving polygons

Proficient**Scale Score:** 200-224***Algebraic Relationships***—Using algebraic relationships, a student can

- ✓ Identify quantitative relationships and determine the type(s) of function that might model the situation to solve the problem (exponential)
- ✓ Analyze linear functions by investigating rates of change and intercepts
- ✓ Apply appropriate properties of exponents to solve equations
- ✓ Compare and contrast various forms of representations of patterns (quadratic)

Geometric and Spatial Relationships—Using geometric and spatial relationships, a student can

- ✓ Use inductive and deductive reasoning to establish the validity of geometric conjectures
- ✓ Solve problems involving 2-dimensional objects represented with Cartesian coordinates
- ✓ Use constructions and the coordinate plane to represent translations, reflections, rotations, and dilations of objects
- ✓ Identify types of symmetries of 3-dimensional figures
- ✓ Use vertex-edge graphs or networks to find optimal solutions

Measurement—Using measurement relationships, a student can

- ✓ Solve problems of angle measure involving parallel lines cut by a transversal
- ✓ Determine the surface area of geometric figures, including cylinders, cones, and spheres

Basic**Scale Score:** 182-199***Algebraic Relationships***—Using algebraic relationships, a student can

- ✓ Generalize patterns using explicitly or recursively defined functions
- ✓ Apply appropriate properties of exponents to simplify expressions
- ✓ Identify quantitative relationships and determine the type(s) of function that might model the situation to solve the problem (absolute value and quadratic)
- ✓ Compare and contrast various forms of representations of patterns (linear)

Geometric and Spatial Relationships—Using geometric and spatial relationships, a student can

- ✓ Identify types of symmetries of 2-dimensional figures (rotational)

Measurement—Using measurement relationships, a student can

- ✓ Solve problems of angle measure involving triangles
- ✓ Determine the volume of geometric figures, including cylinders, cones, and spheres

Below Basic**Scale Score:** 100-181***Algebraic Relationships***—Using algebraic relationships, a student can

- ✓ Identify quantitative relationships and determine the type(s) of function that might model the situation to solve the problem (linear)
- ✓ ***Geometric and Spatial Relationships***—Using geometric and spatial relationships, a student can
- ✓ Identify types of symmetries of 2-dimensional figures (line)

Measurement—Using measurement relationships, a student can

- ✓ Determine the volume of geometric figures (prism and pyramids)