

Grade 8
Session 3, Item 2

<p>Vanessa buys a new large washing machine and a new large dryer for her laundromat. She wants to determine how many loads of laundry, x, it will take before she has earned back the money she spent on each machine. The equation shown can be used to find the amount of money, y, Vanessa still needs to earn.</p> <p style="text-align: center;">Washing Machine Equation</p> $y = -5x + 1450$ <p>Some Dryer Information is shown.</p> <ul style="list-style-type: none"> • The dryer cost \$1,120 to purchase. • Vanessa charges \$4 for each load of laundry done in the dryer. 	<p>Use the Washing Machine Equation to answer the question.</p> <p>What is the x-intercept of the equation $y = -5x + 1450$? What does it represent in the situation?</p> <div style="border: 1px solid gray; height: 200px; margin-top: 10px;"></div> <p style="font-size: small; margin-top: 5px;">0 / 1000</p>
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Maximum Number of Points: 2

Alignment: 8.F.B.4.c

- Use functions to model relationships between quantities.
 - Use functions to model linear relationships between quantities.
 - Determine the x -intercept of a linear function.

CORRECT ANSWER:

- 290
- OR–
- (290, 0)

SAMPLE CORRECT EXPLANATION:

- The x -intercept represents the number of loads of laundry the washing machine will have to do before Vanessa has earned back the money she spent on the machine.

2 Points

- Student determines the x -intercept and explains what it represents in the situation.

1 Point

- Student determines the x -intercept but does not explain what it represents in the situation.
- OR–
- Student does not determine the x -intercept but does explain what it represents in the situation.

0 Points

- Blank
- OR–
- Student does not determine the x -intercept and does not explain what it represents in the situation.

Grade 8
Session 3, Item 5

<p>Vanessa buys a new large washing machine and a new large dryer for her laundromat. She wants to determine how many loads of laundry, x, it will take before she has earned back the money she spent on each machine. The equation shown can be used to find the amount of money, y, Vanessa still needs to earn.</p> <p style="text-align: center;">Washing Machine Equation</p> $y = -5x + 1450$ <p>Some Dryer Information is shown.</p> <ul style="list-style-type: none"> • The dryer cost \$1,120 to purchase. • Vanessa charges \$4 for each load of laundry done in the dryer. 	<p>Use the Washing Machine Equation and the Dryer Information to answer the question.</p> <p>Vanessa writes an equation to show the relationship between the number of loads of laundry done in the dryer, x, and the amount of money she still has to earn before she has earned back all the money she spent on it, y. She then makes a system of equations using this equation and the washing machine equation. Explain how you know the system of equations must have exactly one solution without finding the actual solution.</p> <div style="border: 1px solid gray; height: 250px; margin-top: 10px;"></div> <p style="font-size: small; margin-top: 5px;">0 / 1000</p>
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Maximum Number of Points: 1

Alignment: 8.EE1.C.8.c

- Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.
 - Analyze and solve systems of linear equations.
 - Explain why systems of linear equations can have one solution, no solution, or infinitely many solutions.

SAMPLE CORRECT EXPLANATION:

- The system has exactly one solution because the equations have different slopes.

1 Point

- Student provides a mathematically valid explanation.

0 Points

- Blank
- OR–
- Student does not provide a mathematically valid explanation.