Lesson 15 Practice Problems

1. Kiran and his cousin work during the summer for a landscaping company. Kiran's cousin has been working for the company longer, so his pay is 30% more than Kiran's. Last week his cousin worked 27 hours, and Kiran worked 23 hours. Together, they earned $493.85. What is Kiran's hourly pay? Explain or show your reasoning.

2. Decide which story can be represented by the system of equations $y = x + 6$ and $x + y = 100$. Explain your reasoning.

   a. Diego's teacher writes a test worth 100 points. There are 6 more multiple choice questions than short answer questions.

   b. Lin and her younger cousin measure their heights. They notice that Lin is 6 inches taller, and their heights add up to exactly 100 inches.
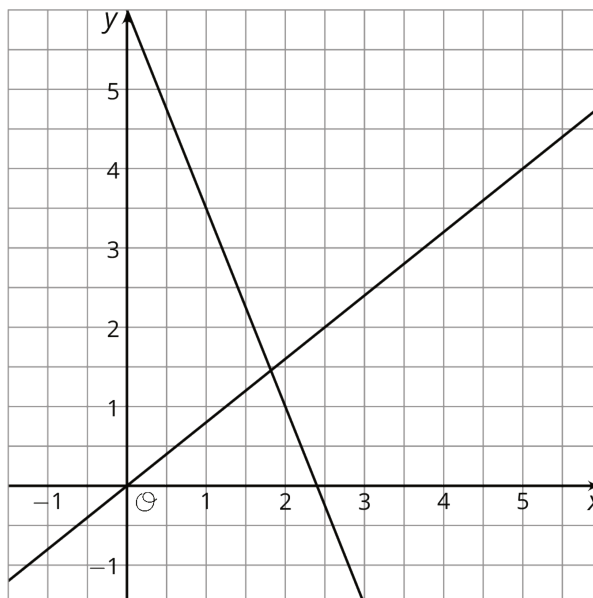
3. Clare and Noah play a game in which they earn the same number of points for each goal and lose the same number of points for each penalty. Clare makes 6 goals and 3 penalties, ending the game with 6 points. Noah earns 8 goals and 9 penalties and ends the game with -22 points.

    a. Write a system of equations that describes Clare and Noah's outcomes. Use x to represent the number of points for a goal and y to represent the number of points for a penalty.

    b. Solve the system. What does your solution mean?

4. Solve: $\begin{cases} y = 6x - 8 \\ y = \text{-}3x + 10 \end{cases}$

(From Unit 4, Lesson 14.)

Grade 8 Unit 4

Lesson 15

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2

5. a. Estimate the coordinates of the point where the two lines meet.

b. Choose two equations that make up the system represented by the graph.

  i. $y = \frac{5}{4}x$

  ii. $y = 6 - 2.5x$

  iii. $y = 2.5x + 6$

  iv. $y = 6 - 3x$

  v. $y = 0.8x$

c. Solve the system of equations and confirm the accuracy of your estimate.

(From Unit 4, Lesson 13.)

Grade 8 Unit 4

Lesson 15

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3