Lesson 4 Practice Problems

1. Mai and Tyler work on the equation $\frac{2}{5}b + 1 = -11$ together. Mai's solution is $b = -25$ and Tyler's is $b = -28$. Here is their work. Do you agree with their solutions? Explain or show your reasoning.

Mai:
$$\frac{2}{5}b + 1 = -11$$
$$\frac{2}{5}b = -10$$
$$b = -10 \cdot \frac{5}{2}$$
$$b = -25$$

Tyler:
$$\frac{2}{5}b + 1 = -11$$
$$2b + 1 = -55$$
$$2b = -56$$
$$b = -28$$

2. Solve $3(x - 4) = 12x$

3. Describe what is being done in each step while solving the equation.

    a. $2(\text{-}3x + 4) = 5x + 2$

    b. $\text{-}6x + 8 = 5x + 2$

    c. $8 = 11x + 2$

    d. $6 = 11x$

    e. $x = \frac{6}{11}$

4. Andre solved an equation, but when he checked his answer he saw his solution was incorrect. He knows he made a mistake, but he can't find it. Where is Andre's mistake and what is the solution to the equation?

$$\text{-}2(3x - 5) = 4(x + 3) + 8$$
$$\text{-}6x + 10 = 4x + 12 + 8$$
$$\text{-}6x + 10 = 4x + 20$$
$$10 = \text{-}2x + 20$$
$$\text{-}10 = \text{-}2x$$
$$5 = x$$

Grade 8 Unit 4

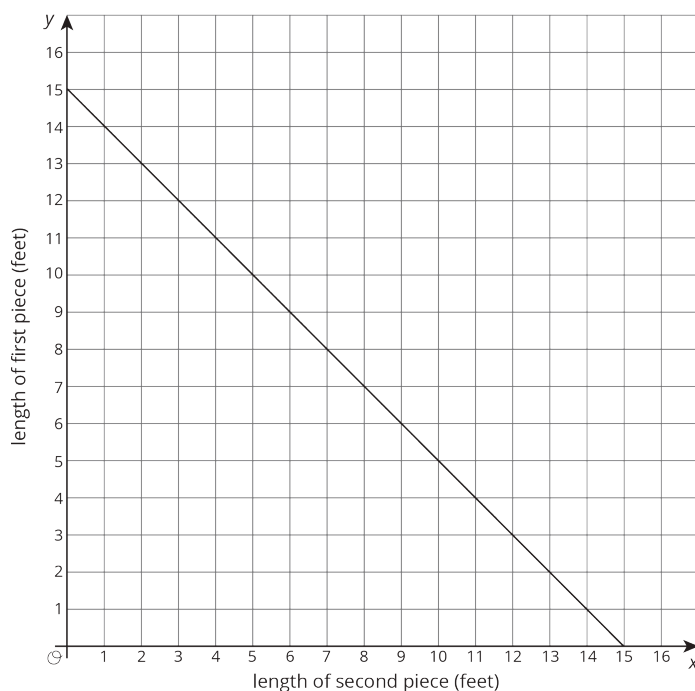Lesson 4

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5. Choose the equation that has solutions $(5, 7)$ and $(8, 13)$.

   A. $3x - y = 8$

   B. $y = x + 2$

   C. $y - x = 5$

   D. $y = 2x - 3$

6. A length of ribbon is cut into two pieces to use in a craft project. The graph shows the length of the second piece, x, for each length of the first piece, y.

   a. How long is the ribbon? Explain how you know.

   b. What is the slope of the line?

   c. Explain what the slope of the line represents and why it fits the story.