Lesson 16 Practice Problems

1. For each pair of points, find the slope of the line that passes through both points. If you get stuck, try plotting the points on graph paper and drawing the line through them with a ruler.

   a. $(1, 1)$ and $(7, 5)$

   b. $(1, 1)$ and $(5, 7)$

   c. $(2, 5)$ and $(-1, 2)$
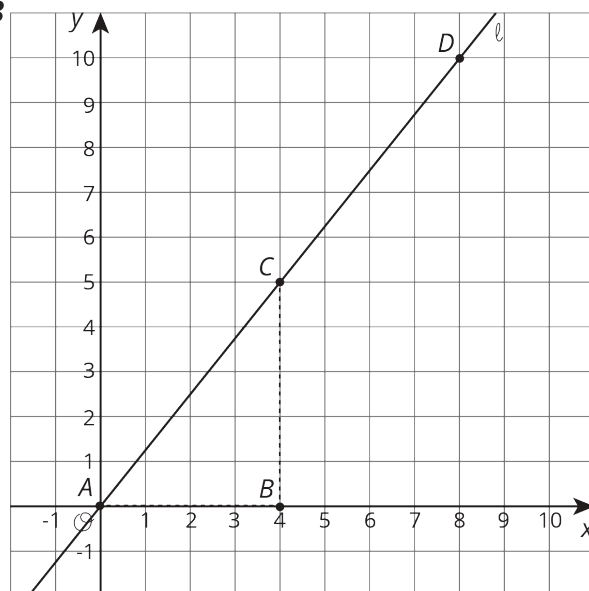
   d. $(2, 5)$ and $(-7, -4)$

2. Line ℓ is shown in the coordinate plane.

   a. What are the coordinates of points B and D?

   b. Is the point $(16, 20)$ on line ℓ? Explain how you know.

   c. Is the point $(20, 24)$ on line ℓ? Explain how you know.

   d. Is the point $(80, 100)$ on line ℓ? Explain how you know.

   e. Write a rule that would allow you to test whether (x, y) is on line ℓ.

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3. Consider the graphed line.

Mai uses Triangle A and says the slope of this line is $\frac{6}{4}$. Elena uses Triangle B and says no, the slope of this line is 1.5. Do you agree with either of them? Explain.
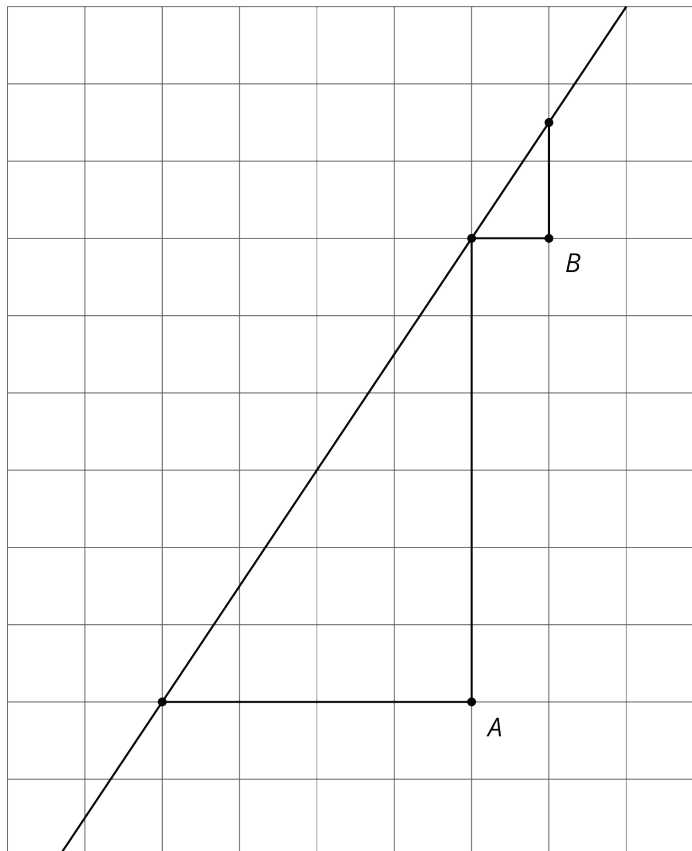
4. Each set of three numbers represents the lengths, in units, of the sides of a triangle. Which set can *not* be used to make a triangle?

    A. 7, 6, 14

    B. 4, 4, 4

    C. 6, 6, 2

    D. 7, 8,13

(From Unit 1, Lesson 15.)

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5. Complete each equation with a number that makes it true.

   a. $8 \cdot \underline{\hspace{1cm}} = 40$

   b. $8 + \underline{\hspace{1cm}} = 40$

   c. $21 \div \underline{\hspace{1cm}} = 7$

   d. $21 - \underline{\hspace{1cm}} = 7$

   e. $21 \cdot \underline{\hspace{1cm}} = 7$

   (From Unit 2, Lesson 2.)

6. A model airplane is built at a scale of 1 to 72. If the model plane is 8 inches long, how many feet long is the actual airplane?

   (From Unit 2, Lesson 7.)

7. A rectangle has length 6 and height 4.

   Which of these would tell you that quadrilateral $ABCD$ is definitely *not* similar to this rectangle? Select **all** that apply.

   A. $AB = BC$

   B. $m\angle ABC = 105°$

   C. $AB = 8$

   D. $BC = 8$

   E. $BC = 2 \cdot AB$

   F. $2 \cdot AB = 3 \cdot BC$

   (From Unit 2, Lesson 12.)