Lesson 10 Practice Problems

1. Select **all** equations that are parallel to the line $2x + 5y = 8$.

   A. $y = \frac{2}{5}x + 4$

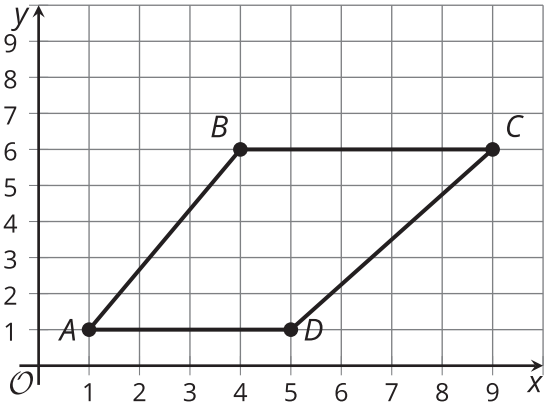
   B. $y = -\frac{2}{5}x + 4$

   C. $y - 2 = \frac{5}{2}(x + 1)$

   D. $y - 2 = -\frac{2}{5}(x + 1)$

   E. $10x + 5y = 40$

2. Prove that $ABCD$ is not a parallelogram.



3. Write an equation of a line that passes through $(-1, 2)$ and is parallel to a line with x-intercept $(3, 0)$ and y-intercept $(0, 1)$.

4. Write an equation of the line with slope $\frac{2}{3}$ that goes through the point $(-2, 5)$.

(From Unit 6, Lesson 9.)

5. Priya and Han each wrote an equation of a line with slope $\frac{1}{3}$ that passes through the point $(1, 2)$. Priya's equation is $y - 2 = \frac{1}{3}(x - 1)$ and Han's equation is $3y - x = 5$. Do you agree with either of them? Explain or show your reasoning.

(From Unit 6, Lesson 9.)

6. Match each equation with another equation whose graph is the same parabola.

A. $(x - 3)^2 + (y - 2)^2 = y^2$

B. $(x - 2)^2 + (y - 3)^2 = (y + 3)^2$

C. $(x - 3)^2 + (y - 4)^2 = (y + 2)^2$

D. $(x - 2)^2 + (y - 2)^2 = (y + 2)^2$

1. $y = \frac{1}{8}(x - 2)^2$

2. $y = \frac{1}{12}(x - 2)^2$

3. $y = \frac{1}{4}(x - 3)^2 + 1$

4. $y = \frac{1}{12}(x - 3)^2 + 1$

(From Unit 6, Lesson 8.)

7. A parabola is defined as the set of points the same distance from $(-1, 3)$ and the line $y = 5$. Select the point that is on this parabola.

   A. $(-1, 3)$

   B. $(0, 5)$

   C. $(3, 0)$

   D. $(0, 0)$

   (From Unit 6, Lesson 7.)

8. Here are some transformation rules. For each rule, describe whether the transformation is a rigid motion, a dilation, or neither.

   a. $(x, y) \rightarrow (2x, y + 2)$

   b. $(x, y) \rightarrow (2x, 2y)$

   c. $(x, y) \rightarrow (x + 2, y + 2)$

   d. $(x, y) \rightarrow (x - 2, y)$

   (From Unit 6, Lesson 2.)