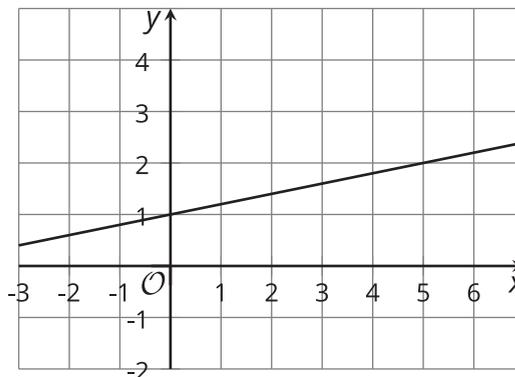


## Lesson 12 Practice Problems

1. For each equation, is the graph of the equation parallel to the line shown, perpendicular to the line shown, or neither?



- $y = 0.2x$
  - $y = -2x + 1$
  - $y = 5x - 3$
  - $(y - 3) = -5(x - 4)$
  - $(y - 1) = 2(x - 3)$
  - $5x + y = 3$
2. Main Street is parallel to Park Street. Park Street is parallel to Elm Street. Elm is perpendicular to Willow. How does Willow compare to Main?
3. The line which is the graph of  $y = 2x - 4$  is transformed by the rule  $(x, y) \rightarrow (-x, -y)$ . What is the slope of the image?

4. Select **all** equations whose graphs are lines perpendicular to the graph of  $3x + 2y = 6$ .

A.  $3x - 2y = 4$

B.  $2x + 3y = 6$

C.  $2x - 3y = 8$

D.  $(y - 4) = \frac{2}{3}(x - 6)$

E.  $(y - 2) = -\frac{3}{2}(x - 8)$

F.  $y = \frac{2}{3}x$

G.  $y = \frac{3}{2}x + 3$

(From Unit 6, Lesson 11.)

5. Match each line with a perpendicular line.

A. the line through (12, 4) and (9, 19)

1. the line through (3, 1) and (1, 4)

B.  $2x - 5y = 10$

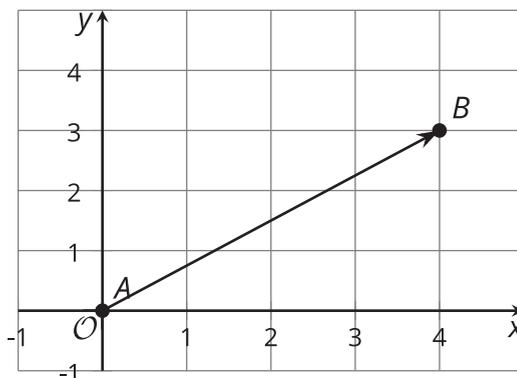
2.  $y = \frac{1}{5}x + 7$

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

3.  $y - 1 = -2.5(x + 3)$

(From Unit 6, Lesson 11.)

6. The graph of  $y = -4x + 2$  is translated by the directed line segment  $AB$  shown. What is the slope of the image?



(From Unit 6, Lesson 10.)

7. Select **all** points on the line with a slope of  $-\frac{1}{2}$  that go through the point  $(4, -1)$ .

- A.  $(-2, 2)$
- B.  $(0, 2)$
- C.  $(4, -1)$
- D.  $(0, 1)$
- E.  $(-3, 8)$

(From Unit 6, Lesson 9.)

8. One way to define a circle is that it is the set of all points that are the same distance from a given center. How does the equation  $(x - h)^2 + (y - k)^2 = r^2$  relate to this definition? Draw a diagram if it helps you explain.

(From Unit 6, Lesson 4.)