Quiz Review
5 - 1 through 5 - 3

Find the slope of the line that passes through each pair of points.
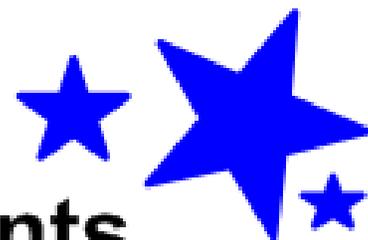
1. $(-4, -1)$ and $(-2, -5)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} \qquad \frac{-1 + {}^{+}5}{-4 + {}^{+}2} = \frac{4}{-2} = \boxed{-2}$$

2. $(-4, -1)$ and $(-4, -5)$

$$\frac{-1 + {}^{+}5}{-4 + {}^{+}4} = \frac{4}{0} \qquad \boxed{\text{undefined}}$$

3. (14, - 8) and (7, - 6)

$$\frac{-8 + {}^{+}6}{14 - 7} = \boxed{\frac{-2}{7}}$$
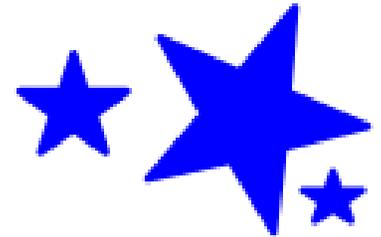
4. (4, - 3) and (8, - 3)

$$\frac{-3 + {}^{+}3}{4 - 8} = \frac{0}{-4} = \boxed{0}$$

Determine the value of *r* so the line that passes through each pair of points has the given slope.

5. $(-1, -3)$, $(7, r)$, $m = \dfrac{3}{4}$

$$m = \frac{y-y}{x-x}$$
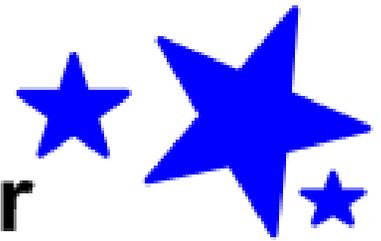
$$\frac{3}{4} = \frac{-3-r}{-1-7}$$

$$-24 = -12 - 4r$$
$$+12 \qquad +12$$

$$\frac{-12}{-4} = \frac{-4r}{-4}$$

$$\boxed{3 = r}$$

6. $(r, 4)$, $(7, 1)$, $m = \dfrac{3}{4}$

$\dfrac{3}{4} = \dfrac{4-1}{r-7}$

$\dfrac{3}{4} = \dfrac{3}{r-7}$

(4)

$r - 7 = 4$

$r = 11$
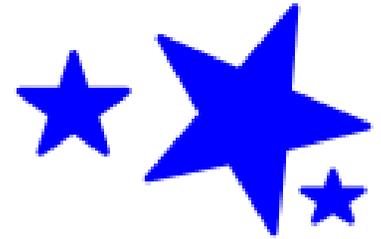
$12 = 3r - 21$

$r = 11$

Write a direct variation equation that relates x and y. Then solve for x.

7. If $y = -8$ when $x = -2$, find x when $y = 32$.

$$y = \textcircled{K}x$$

$$\frac{-8}{-2} = \frac{K \cdot -2}{-2}$$

$$4 = k$$

$$\boxed{y = 4x}$$

$$y = 4x$$

$$\frac{32}{4} = \frac{4x}{4}$$

$$\boxed{8 = x}$$

Direct variation: $y = 4x$
$x = 8$

8. If y = 4 when x = 16, find y
   when x = 6.

$$y = kx$$

$$4 = k \cdot 16$$
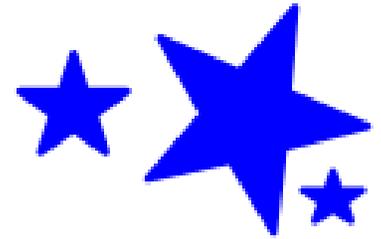
$$\frac{4}{16} = \frac{k \cdot 16}{16}$$

$$\frac{1}{4} = k$$

$$y = \frac{1}{4}x$$

$$y = \frac{1}{4}x$$

$$y = \frac{1}{4} \cdot \frac{6}{1}$$

$$y = \frac{6}{4}$$

$$y = \frac{3}{2}$$

Direct variation: $y = \frac{1}{4}x$
$y = \frac{3}{2}$ or 1.5

Write an equation of the line with the given slope and y-intercept.

9. slope: 8, y-intercept: - 3

$$y=mx+b \qquad y=8x-3$$

10. slope: - 1, y-intercept: 7

$$y=-x+7$$

Graph each equation.
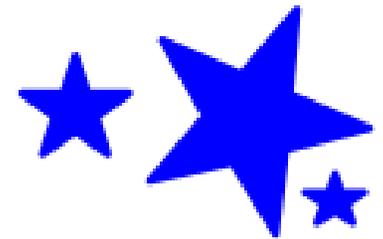
11. $y = -\dfrac{3}{4}x$
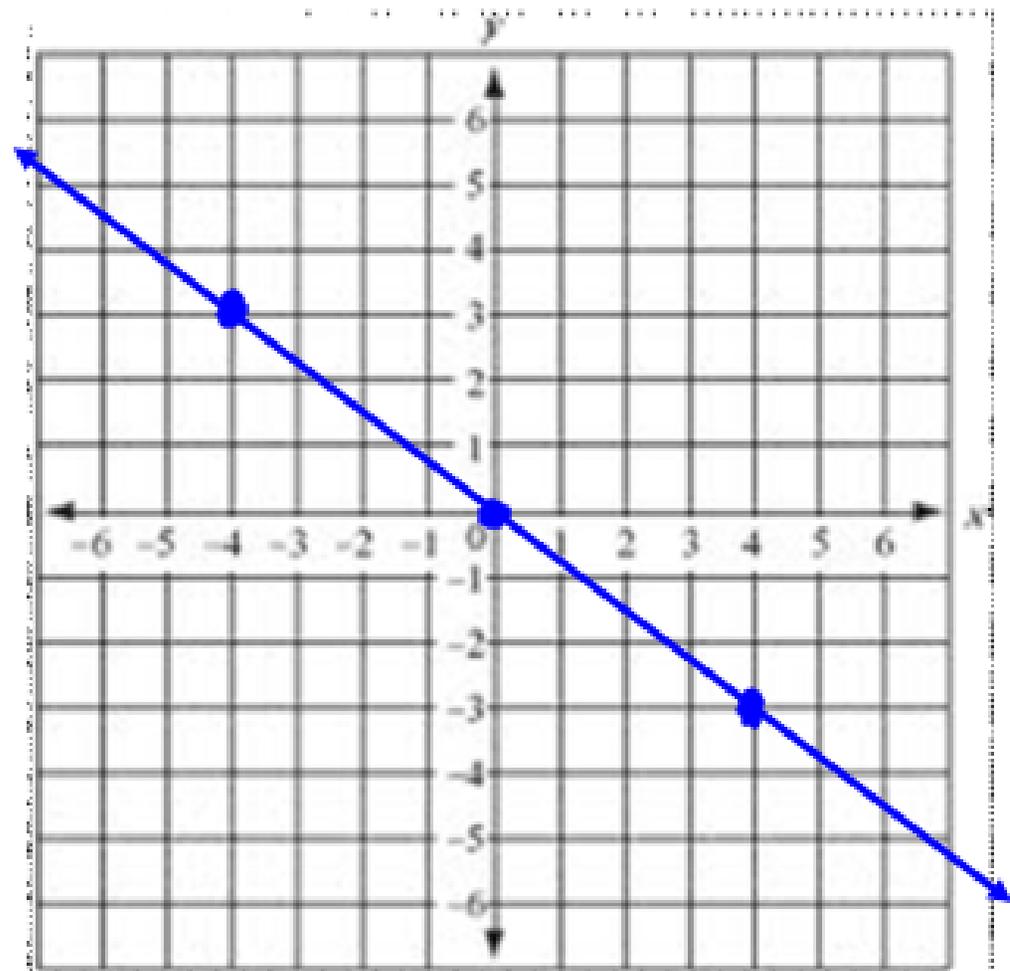
# Graph each equation.
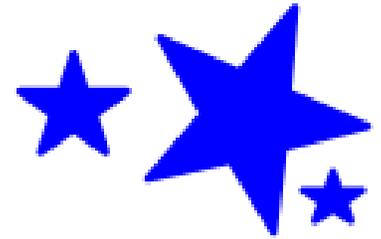
12. $y = \dfrac{2}{5}x$
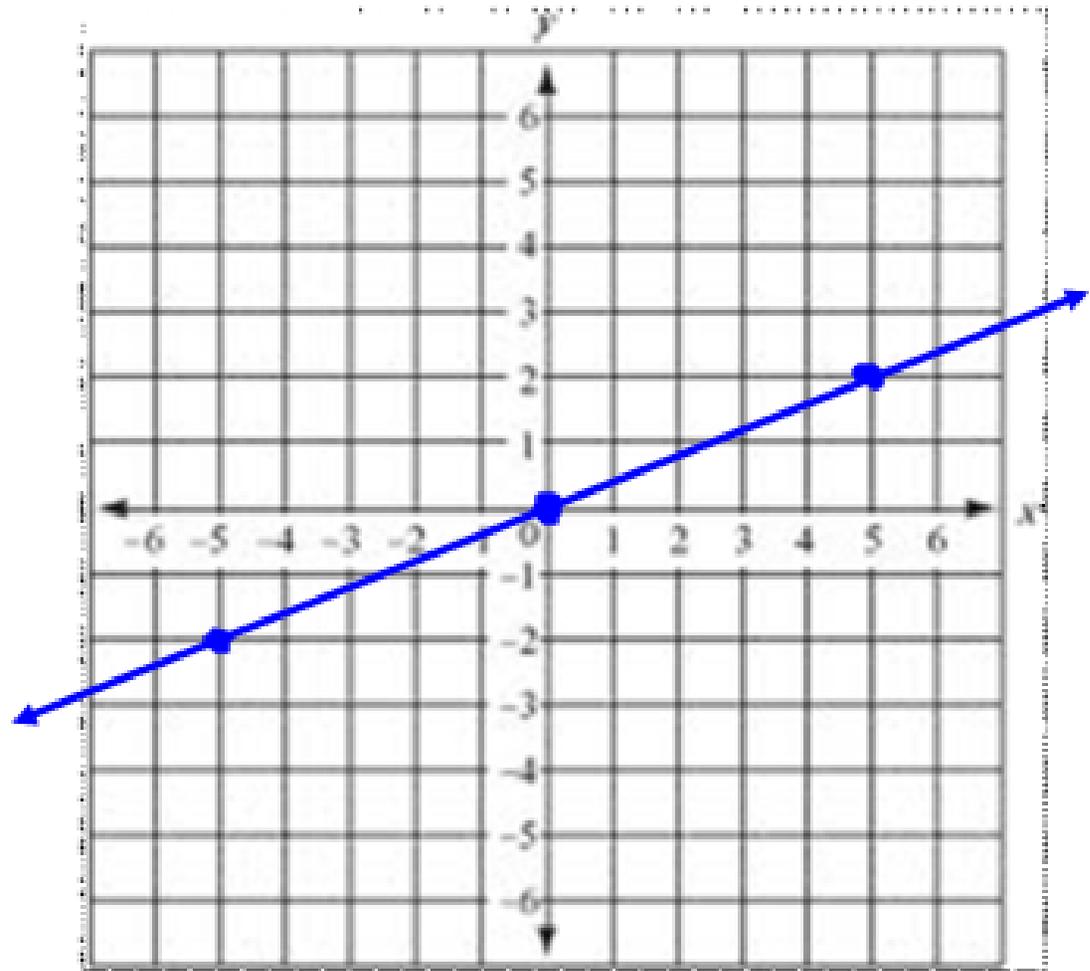
Graph each equation.
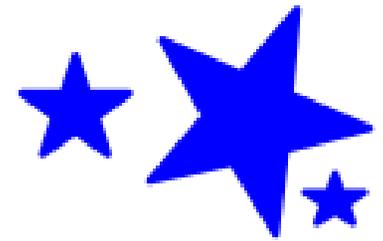
13. y = 2x + 1
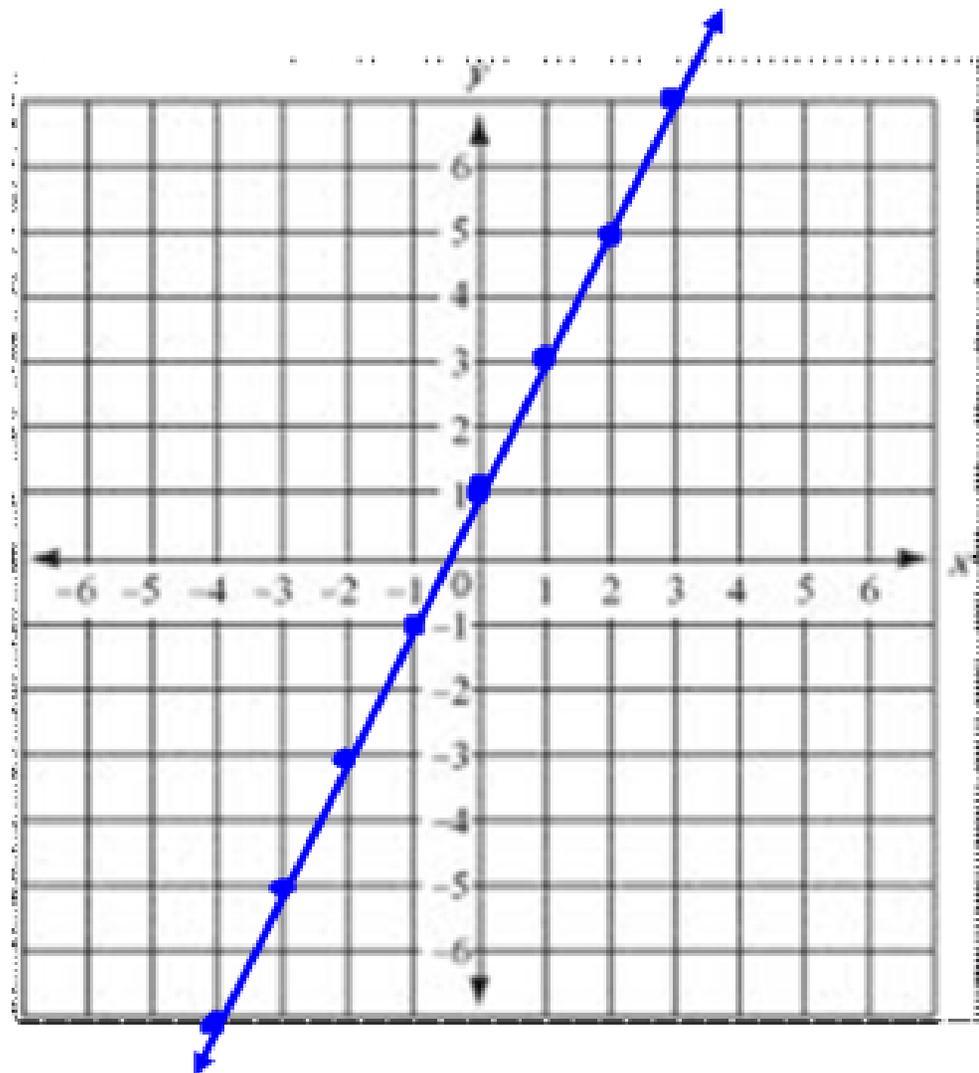
Graph each equation.
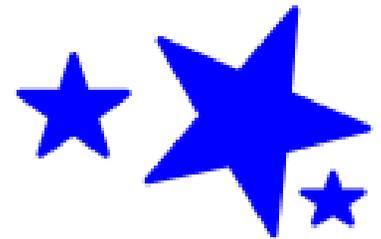
14. $y = -3x + 2$
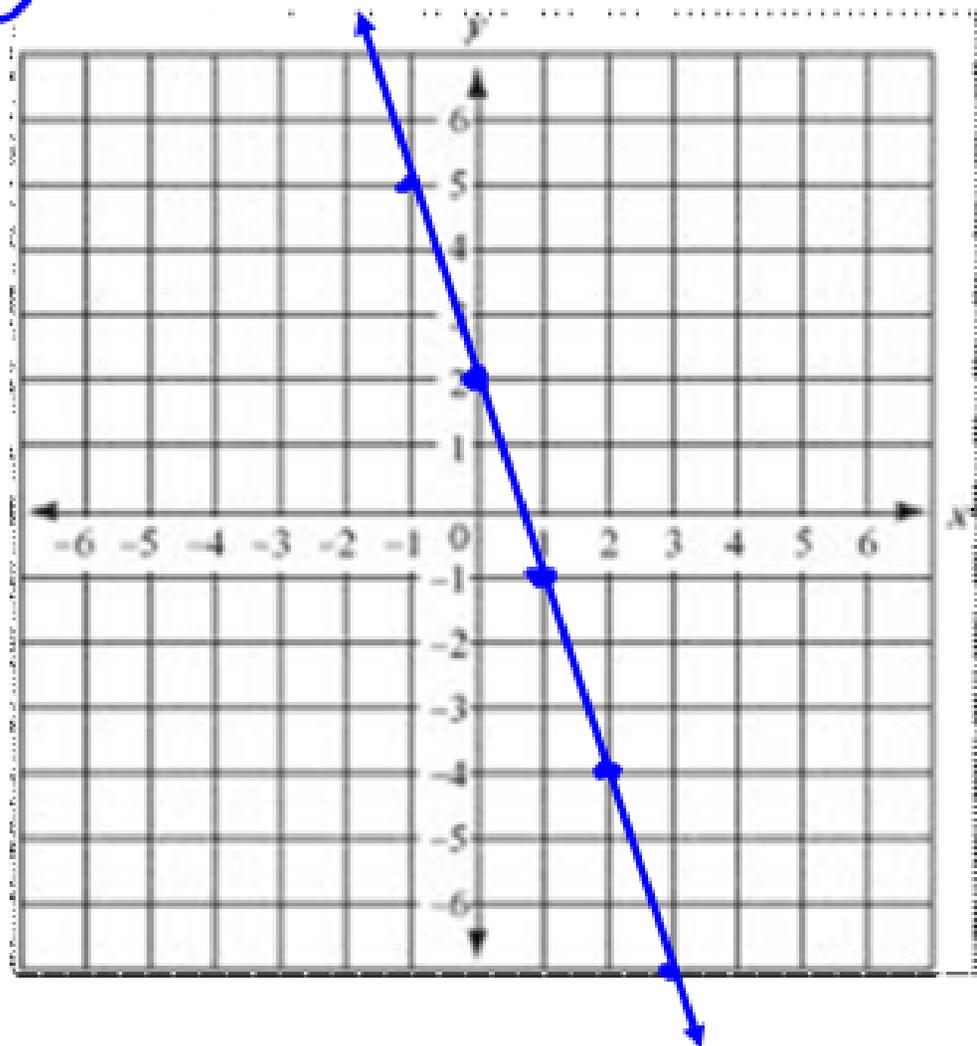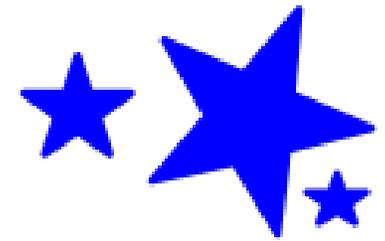
# Write an equation of the line shown in each graph.

15.
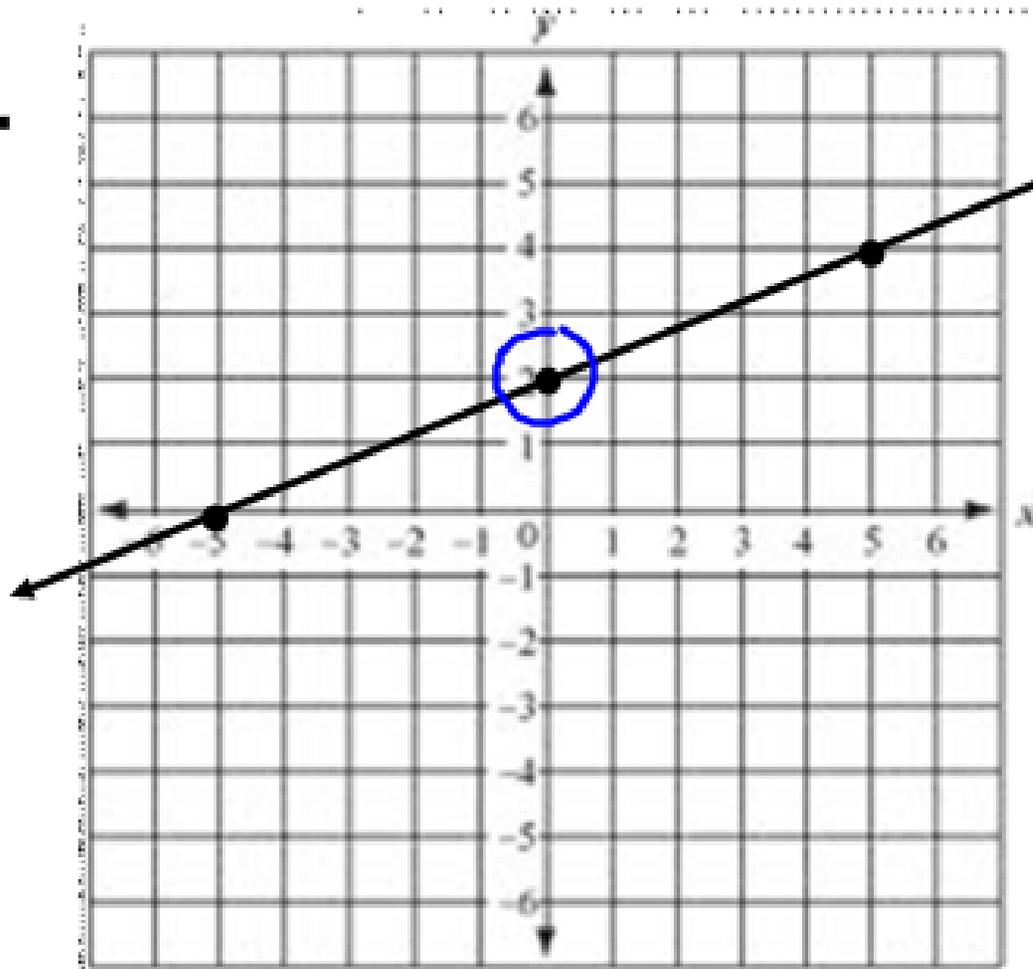
$y = \dfrac{2}{5}x + 2$

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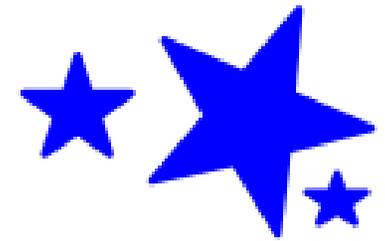
Write an equation of the line shown in each graph.

16.

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