

Unit 5A Study Guide

Date _____ Period _____

Determine if the table represents a linear function. If so, state the slope.

1) X -4 -3 -2 -1 0

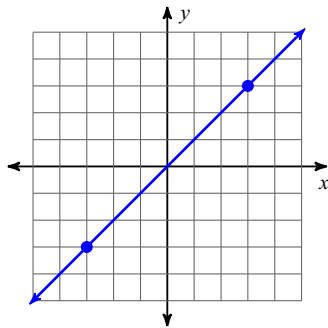
 Y 16 9 4 1 0

2) X 1 2 3 4 5

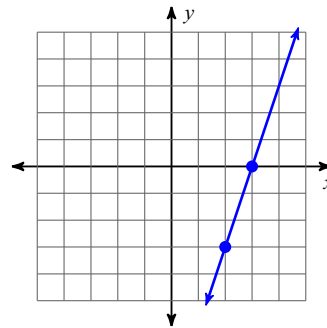
 Y -3 0 3 6 9

Identify the slope.

3)



4)



5) $y = \frac{2}{5}x - 1$

6) $y = 5x + 2$

7) $(-1, -12), (-11, 10)$

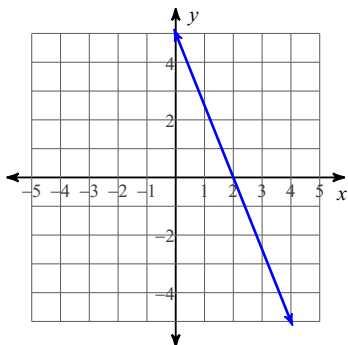
8) $(-6, 0), (-8, -13)$

9) $(1, 15), (8, 9)$

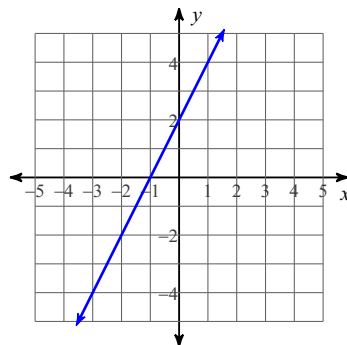
10) $(-6, 7), (12, -19)$

Write the slope-intercept form of the equation from the given information.

11)



12)



13) Slope = 9, y-intercept = -4

14) Slope = $-\frac{7}{4}$, y-intercept = 4

15) through: $(3, 4)$, slope = 1

16) through: $(-4, -3)$, slope = $\frac{5}{4}$

| | | | |
|-------------------|----|----|----|
| 17) Days Painting | 2 | 3 | 5 |
| Gal. of Paint | 56 | 44 | 20 |

18) through: $(3, -5)$ and $(-3, 1)$

- 19) A bucket of water currently holding 10 gallons of water is leaking at a rate of 2 gallons per hour.
 a) Write an equation to represent gallons (g) as a function of hours (h).

b) Identify the slope and y-intercept and give the meaning of each.
 Slope:

Y-intercept:

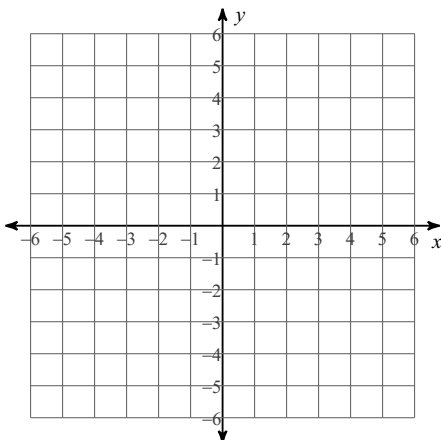
- 20) A car that currently has .80 liters of gas gets filled up at a rate of 1.2 liters per minute.
 a) Write an equation to represent liters (L) as a function of minutes (m).

b) Identify the slope and y-intercept and give the meaning of each.
 Slope:

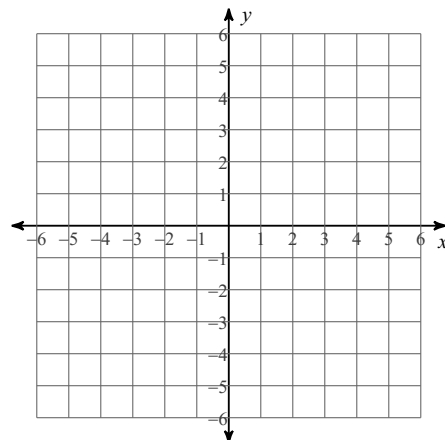
Y-intercept:

Sketch the graph of each line.

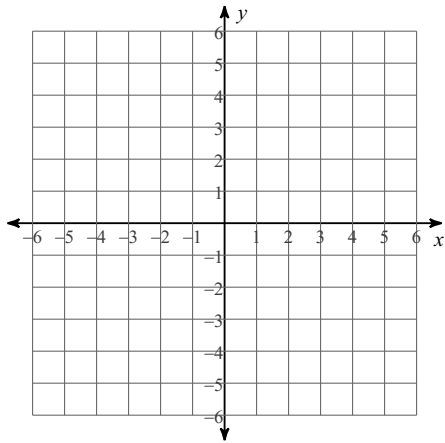
21) $y = -\frac{3}{4}x + 1$



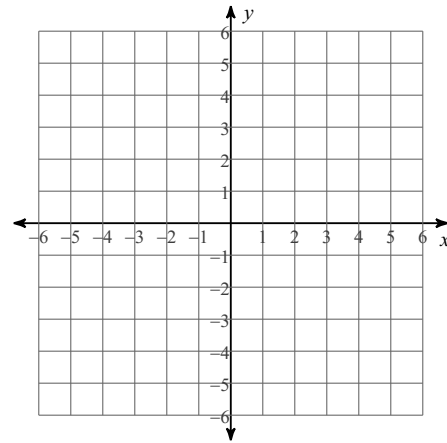
22) $y = -\frac{2}{3}x$



23) $7x = -2y - 4$



24) $4 + y - x = 0$



Are the following equations direct variation? If so, what is K?

25) $-3x = 4y$

26) $y + 2 = 3x + 2$

27) Suppose y varies directly with x when $y = -24$ and $x = 3$. Write an equation and find y if $x = 7$.

28) Suppose y varies directly with x when $y = 11$ and $x = 55$. Write an equation and find x if $y = 3$.

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Determine if the table represents a linear function. If so, state the slope.

1) X -4 -3 -2 -1 0
 Y 16 9 4 1 0

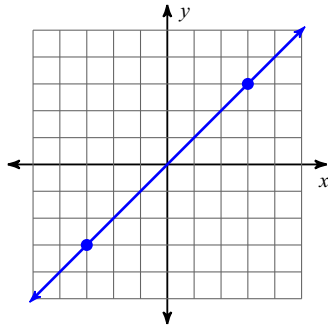
NO

2) X 1 2 3 4 5
 Y -3 0 3 6 9

YES, slope = 3

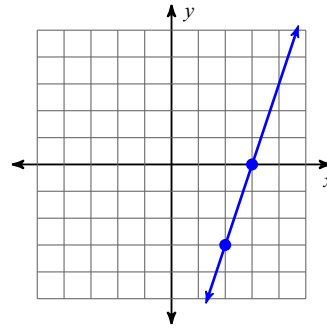
Identify the slope.

3)



1

4)



3

5) $y = \frac{2}{5}x - 1$

$\frac{2}{5}$

6) $y = 5x + 2$

5

7) $(-1, -12), (-11, 10)$

$-\frac{11}{5}$

8) $(-6, 0), (-8, -13)$

$\frac{13}{2}$

9) $(1, 15), (8, 9)$

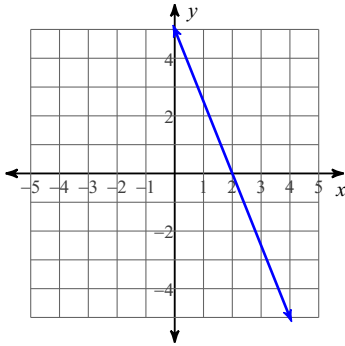
$$-\frac{6}{7}$$

10) $(-6, 7), (12, -19)$

$$-\frac{13}{9}$$

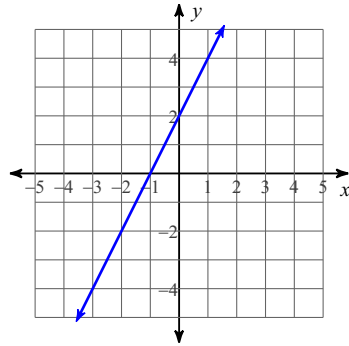
Write the slope-intercept form of the equation from the given information.

11)



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

12)



$$y = 2x + 2$$

13) Slope = 9, y-intercept = -4

$$y = 9x - 4$$

14) Slope = $-\frac{7}{4}$, y-intercept = 4

$$y = -\frac{7}{4}x + 4$$

15) through: $(3, 4)$, slope = 1

$$y = x + 1$$

16) through: $(-4, -3)$, slope = $\frac{5}{4}$

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

| | | | |
|-------------------|----|----|----|
| 17) Days Painting | 2 | 3 | 5 |
| Gal. of Paint | 56 | 44 | 20 |

$$y = -12x + 80$$

18) through: $(3, -5)$ and $(-3, 1)$

$$y = -x - 2$$

- 19) A bucket of water currently holding 10 gallons of water is leaking at a rate of 2 gallons per hour.
 a) Write an equation to represent gallons (g) as a function of hours (h).

b) Identify the slope and y-intercept and give the meaning of each.
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Y-intercept:

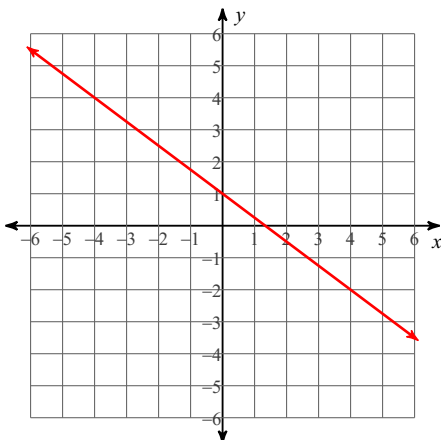
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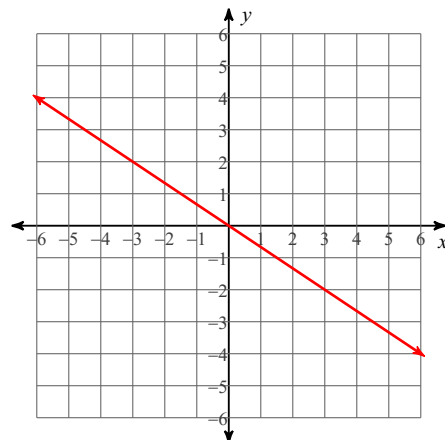
Y-intercept:

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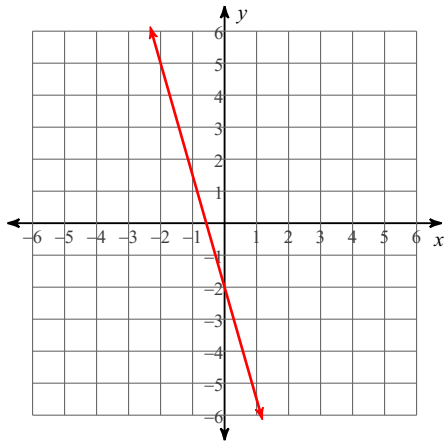
21) $y = -\frac{3}{4}x + 1$



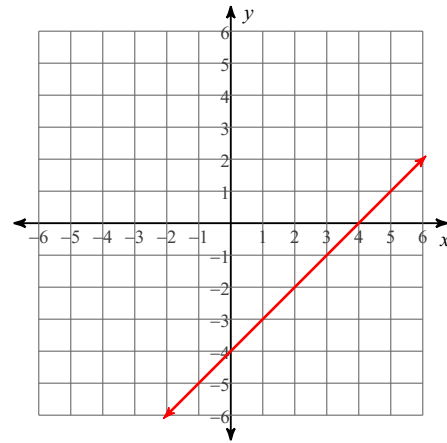
22) $y = -\frac{2}{3}x$



23) $7x = -2y - 4$



24) $4 + y - x = 0$



Are the following equations direct variation? If so, what is K?

25) $-3x = 4y$

yes, $k = -\frac{3}{4}$

26) $y + 2 = 3x + 2$

yes, $k = 3$

27) Suppose y varies directly with x when $y = -24$ and $x = 3$. Write an equation and find y if $x = 7$.

$y = -8x$, $y = -56$

28) Suppose y varies directly with x when $y = 11$ and $x = 55$. Write an equation and find x if $y = 3$.

$y = \frac{1}{5}x$, $x = 15$