

Unit 5 Review – SLOPE

Name: _____

Key

The rate of change is constant in the table. Find the rate of change. Explain what the rate of change means for the situation.

1.

Time (days)	Cost (dollars)
3	75
4	100
5	125
6	150

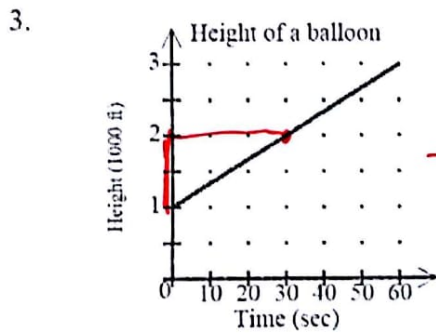
$$\frac{100 - 75}{4 - 3} = \frac{\$25}{1 \text{ day}}$$

2.

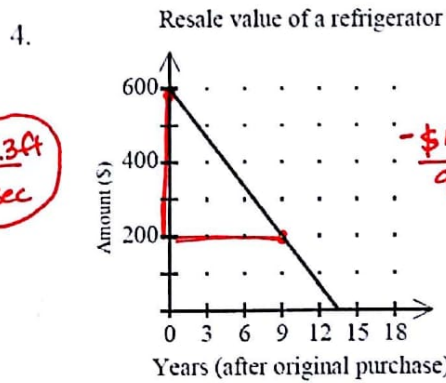
Time (hours)	Distance (miles)
4	232
6	348
8	464
10	580

$$\frac{348 - 232}{6 - 4} = \frac{116 \text{ mi}}{2 \text{ hr}} = \frac{58 \text{ mi}}{1 \text{ hr}}$$

Find the rates of change for each graph below. Explain what the rate of change means for the situation.

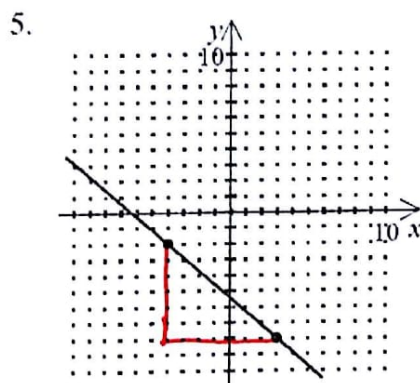


$$\frac{1000 \text{ ft}}{30 \text{ sec}} = \frac{33.3 \text{ ft}}{1 \text{ sec}}$$

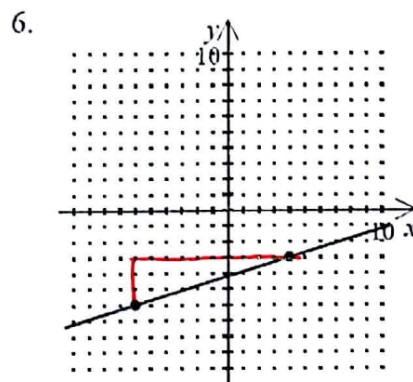


$$\frac{-\$400}{9 \text{ yrs}} = \frac{-\$44.44}{1 \text{ yr}}$$

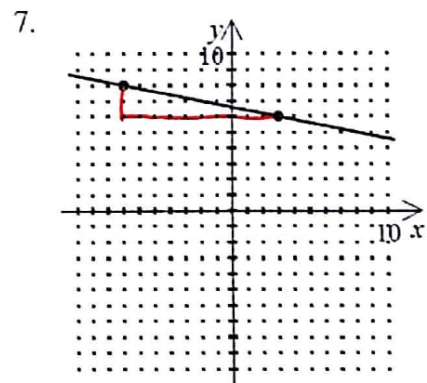
Find the slope of the line.



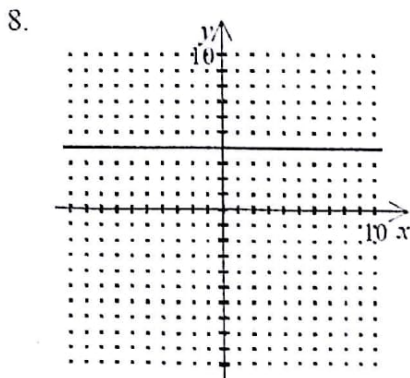
Slope = $-\frac{6}{7}$



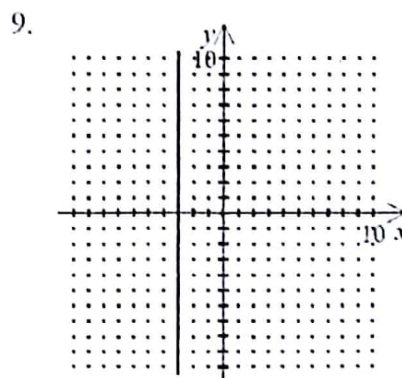
Slope = $\frac{3}{10}$



Slope = $-\frac{2}{10} = -\frac{1}{5}$



Slope = 0



Slope = undefined

Find the slope of the line that passes through the pair of points.

10. $(-5, 3), (4, -8)$

$$\frac{-8 - 3}{4 - (-5)} = \frac{-11}{9}$$

11. $(-3, -8), (2, -7)$

$$\frac{-7 - (-8)}{2 - (-3)} = \frac{1}{5}$$

12. $(5, 3), (6, 4)$

$$\frac{4 - 3}{6 - 5} = \frac{1}{1} = 1$$

Find the slope and y-intercept of each equation.

13. $y = \frac{2}{3}x + 2$ $m = \frac{2}{3}$ $b = 2$

14. $y = 2x - 3$ $m = 2$ $b = -3$

15. $m = \frac{1}{3}, b = 3$

$$y = \frac{1}{3}x + 3$$

16. $m = -\frac{5}{2}, b = -6$

$$y = -\frac{5}{2}x - 6$$

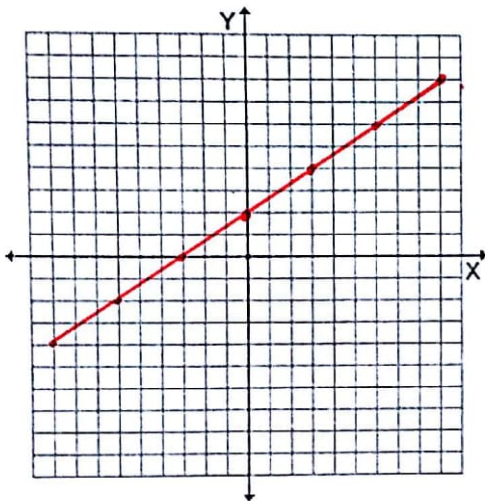
17. $m = -.5, b = 2$

$$y = -.5x + 2$$

Identify the slope and y-intercept of each equation. Then graph the equation.

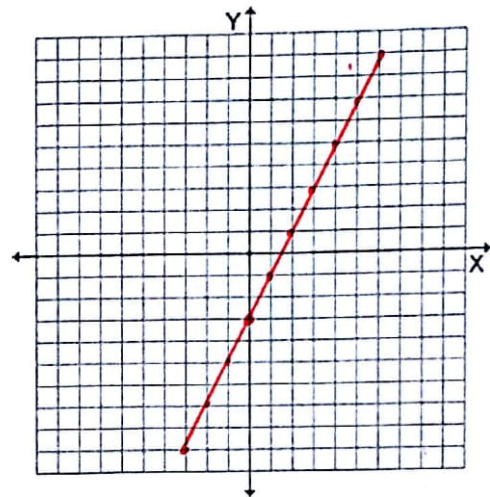
18. $y = \frac{2}{3}x + 2$

Slope = $\frac{2}{3}$ y-intercept = 2



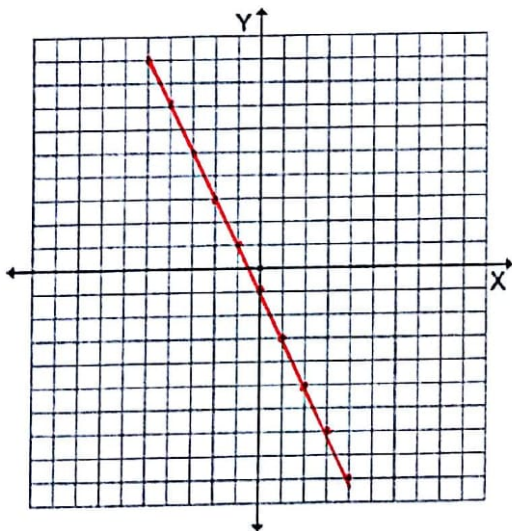
19. $y = 2x - 3$

Slope = 2 y-intercept = -3



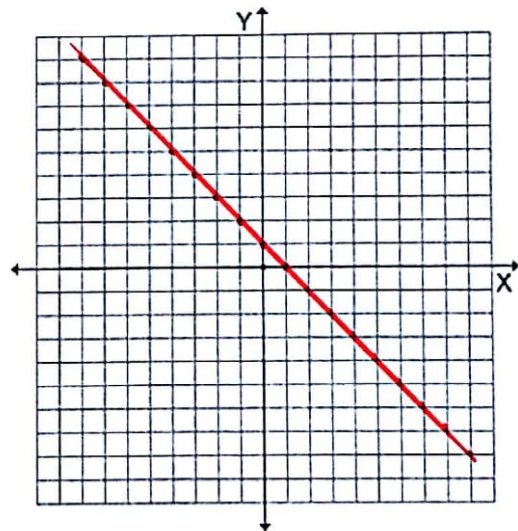
20. $y = -2x - 1$

Slope = -2 y-intercept = -1



21. $y = -x + 1$

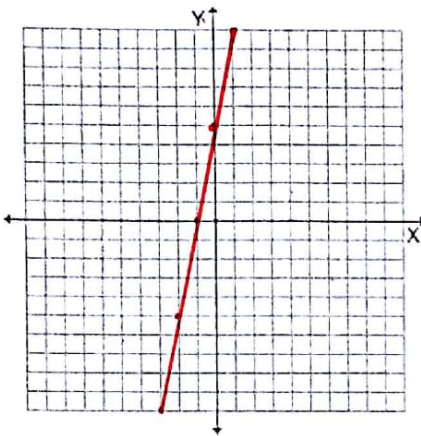
Slope = -1 y-intercept = 1



Solve each equation for y. Find the slope and y-intercept, then graph the final equation below.

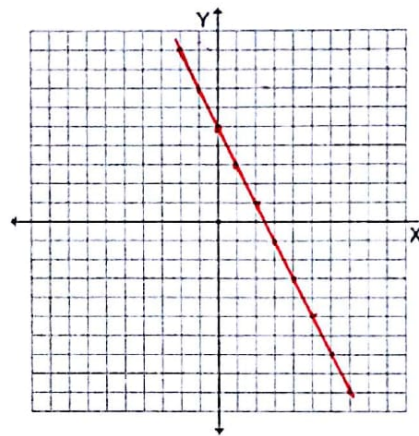
22.
$$\begin{array}{r} y - 5 = 3x \\ +5 \quad +5 \\ \hline y = 3x + 5 \end{array}$$

m = 3 b = 5



23.
$$\begin{array}{r} 2y + 4x = 10 \\ -4x \quad -4x \\ \hline 2y = -4x + 10 \\ \frac{2y}{2} = \frac{-4x + 10}{2} \\ y = -2x + 5 \end{array}$$

m = -2 b = 5



24.

Julie loves to collect comic books. She has 9 comic books now and collects 4 more each week.

<p>A) Define variables</p> <p>T = <u>Total</u></p> <p>w = <u>weeks</u></p>	<p>B) Slope & y-intercept</p> <p>m = <u>4</u></p> <p>b = <u>9</u></p>	<p>C) Write equation</p> <p>$y = 4x + 9$</p> <p>$y = mx + b$</p>	<p>D) If Julie keeps collecting comic books for 7 more weeks, how many comic books will she have total?</p> <p>$y = 4(7) + 9$</p> <p>$y = 28 + 9$</p> <p><u>$y = 37$ books</u></p> <p>Write out the equation to solve</p>
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