CHAPTER 5 REVIEW

NAME: ___Key___

Find the slope of each line.
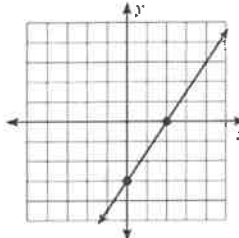
1. ___$\frac{-6}{2} = -3$___
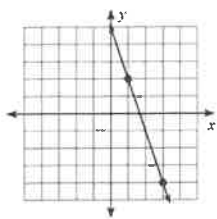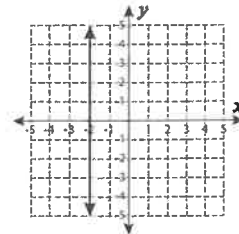

2. ___0___
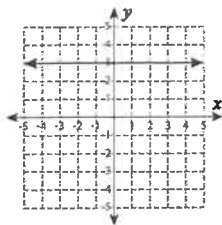
3. ___$\frac{3}{2}$___

4. ___undefined___

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

5. $(-1, 2)$ & $(0, 5)$

$$\frac{5-2}{0+1} = \frac{3}{1} = \boxed{3}$$

6. $\left(\frac{1}{4}, 6\right)$ & $\left(\frac{3}{4}, 2\right)$

$$\frac{2-6}{\frac{3}{4}-\frac{1}{4}} = \frac{-4}{\frac{1}{2}} = \boxed{-8}$$

Identify the slope & y-intercept of the graph of each equation.

7. $y = -\frac{2}{3}x + 7$

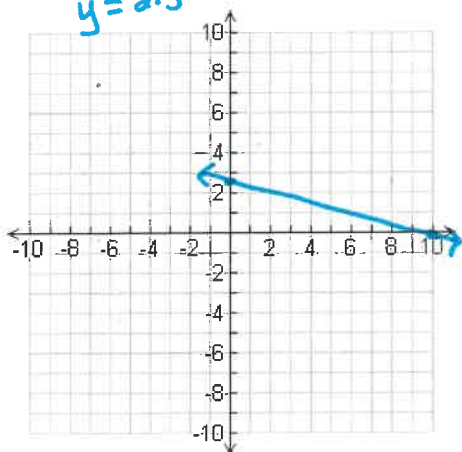$$\boxed{m = -\frac{2}{3} \quad b = 7}$$

8. $y = 4x - 8$

$$\boxed{m = 4 \quad b = -8}$$

9. $3x + 6y = 12$

$$-3x \qquad\qquad -3x$$
$$\frac{6y}{6} = \frac{-3x + 12}{6}$$
$$y = -\frac{1}{2}x + 2$$
$$\boxed{m = -\frac{1}{2} \quad b = 2}$$
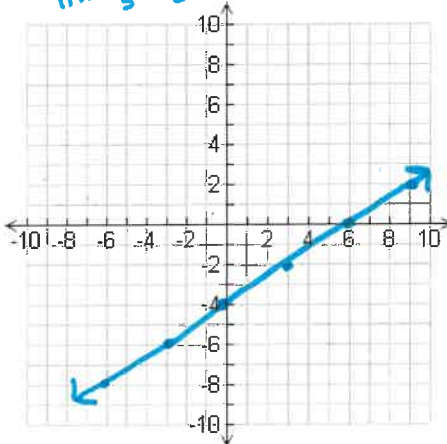
Graph each equation.

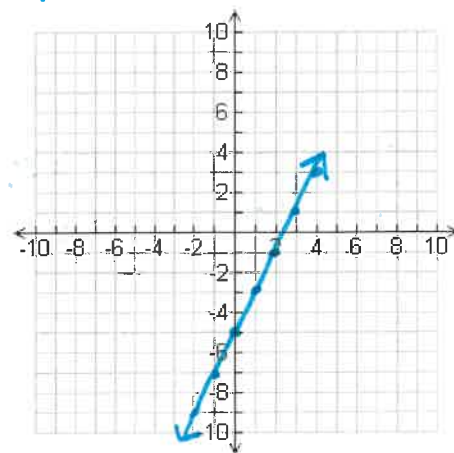10. $x + 4y = 10$

$x = 10$
$y = 2.5$

11. $y = \frac{2}{3}x - 4$
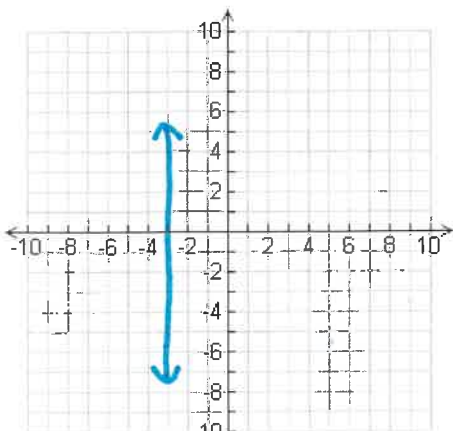
$m = \frac{2}{3} \quad b = -4$
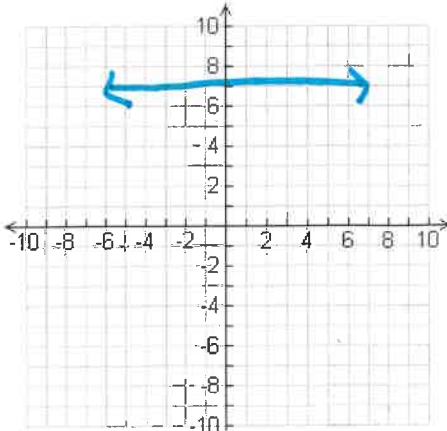

12. $y + 3 = 2(x - 1)$

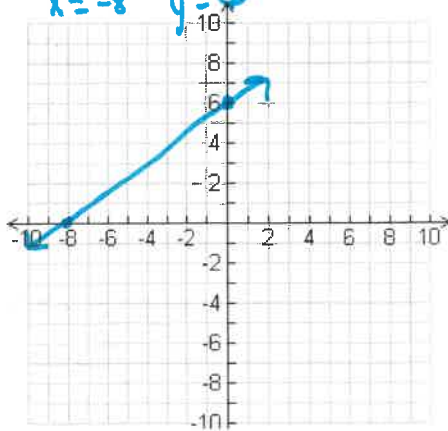$m = 2 \quad (1, -3)$

13. $x = -3$

14. $y = 7$

15. $-3x + 4y = 24$

$x = -8 \quad y = 6$

Find the x- and y-intercepts of the graph of each equation.

16. $3x + 2y = 12$

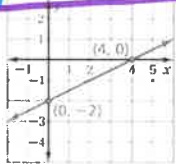$\dfrac{3x}{3} = \dfrac{12}{3}$ $\dfrac{2y}{2} = \dfrac{12}{2}$

$x = 4$ & $y = 6$

17. $7x - 10y = 14$

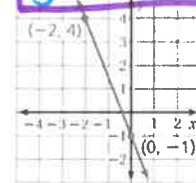$\dfrac{7x}{7} = \dfrac{14}{7}$ $\dfrac{-10y}{-10} = \dfrac{14}{-10}$

$x = 2$ & $y = -1.4$

Write an equation, in slope-intercept form, for the given line.

18. $y = \frac{1}{2}x - 2$

(4, 0)
(0, -2)

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

(-2, 4)
(0, -1)

Write each equation in slope intercept form.

20. $4x + 12y = 24$

$-4x \qquad\qquad -4x$

$\dfrac{12y}{12} = \dfrac{-4x}{12} + \dfrac{24}{12}$

$y = -\frac{1}{3}x + 2$

21. $5x = 4y - 12$

$+12 \qquad +12$

$\dfrac{4y}{4} = \dfrac{5x}{4} + \dfrac{12}{4}$

$y = \frac{5}{4}x + 3$

Write an equation in point-slope form for the line that has the given slope m and that passes through the given point.

22. $m = \frac{1}{3}$ $(6, -2)$

$y + 2 = \frac{1}{3}(x - 6)$

23. $m = -4$ $(-3, 1)$

$y - 1 = -4(x + 3)$

Write an equation in slope-intercept form that passes through the given points.

24. $(4, 10)$ & $(2, 15)$

$\dfrac{15-10}{2-4} = \dfrac{5}{-2}$ $y - 15 = -\frac{5}{2}(x - 2)$

$y - 15 = -\frac{5}{2}x + 5$

$+15 \qquad\qquad +15$

$y = -\frac{5}{2}x + 20$

25. $(3, 5)$ & $(-2, -5)$

$\dfrac{5+5}{3+2} = \dfrac{10}{5} = 2$ $y - 5 = 2(x - 3)$

$y - 5 = 2x - 6$

$+5 \qquad\qquad +5$

$y = 2x - 1$

Write an equation in slope-intercept form for the line that passes through the given point and is PARALLEL to the given line.

26. $(-6, 3)$ $y = \frac{1}{2}x + 7$

$m = \frac{1}{2}$ $y - 3 = \frac{1}{2}(x + 6)$

$y - 3 = \frac{1}{2}x + 3$

$+3 \qquad\qquad +3$

$y = \frac{1}{2}x + 6$

27. $(-3, 5)$ $y = 4$

$y = 5$

Write an equation in slope-intercept form for the line that passes through the given point and is PERPENDICULAR to the given line.

28. $(12, -5)$ $y = 6x - 3$

$m = -\frac{1}{6}$ $y + 5 = -\frac{1}{6}(x - 12)$

$y + 5 = -\frac{1}{6}x + 2$

$-5 \qquad\qquad -5$

$y = -\frac{1}{6}x - 3$

29. $(5, -4)$ $x = 6$

$y = -4$