NAME _____   DATE _____

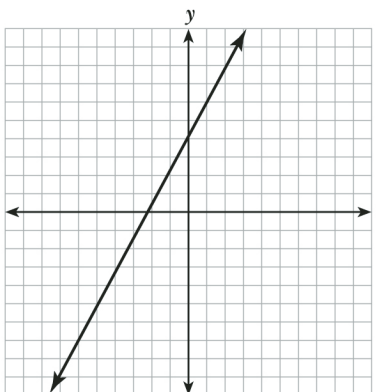## Module Test A   Module 8

Use $\frac{rise}{run}$ to find the slope of each line.

1.
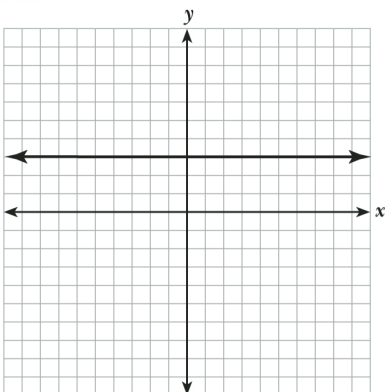
0 _____

2.

2 _____

Find the slope of the line passing through the given points.

3. (1, 2) and (4, –6) $-\frac{8}{3}$ _____

4. (–2, –6) and (2, 3) $\frac{9}{4}$ _____

5. Find the slope of a line parallel to the line passing through the points (3, 4) and (–2, 4).
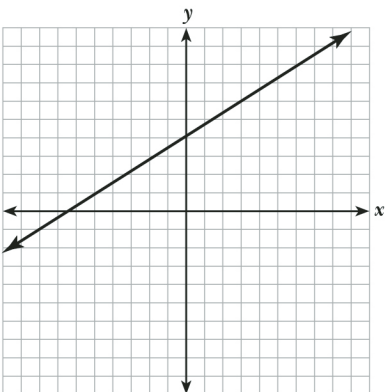
0 _____

6. Find the slope of a line perpendicular to the line passing through the points (3, 2) and (–6, 9).

$\frac{9}{7}$ _____

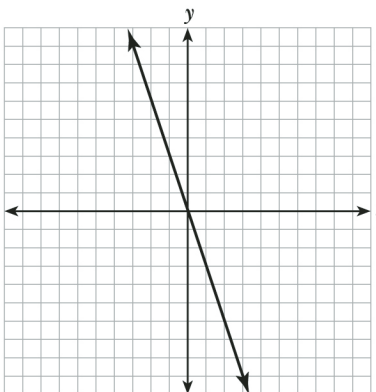**7.** Find the slope of any line perpendicular to the *x*-axis. **undefined** _____

Find the equation of the line shown in slope-intercept form.

8.

$y = \frac{2}{3}x + 4$ _____

9.

$y = -3x$ _____

Find the equation of the line in slope intercept form.

10. Slope $= 2$ y-intercept $= -8$

$y = 2x - 8$

11. Slope $= \frac{4}{5}$ y-intercept $= 0$

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

12. Find the equation of the line that has an undefined slope and passes through $(3, -2)$.

$x = 3$

13. Find the equation of the line in slope-intercept form that passes through the points $(0, -2)$ and $(3, 4)$.

$y = 2x - 2$

14. Write the equation of the line in slope-intercept form that is perpendicular to $y = -\frac{3}{4}x + 2$ and has a y-intercept of -3.

$y = \frac{4}{3}x - 3$

15. Write the equation of the line in slope-intercept form that is parallel to $y = 2x + 3$ and passes through the point $(3, -5)$.

$y = 2x - 11$

16. Find the equation in slope-intercept form of the line that contains the point $(2, -3)$ and has a slope of 4.

$y = 4x - 11$

17. Find the equation in slope-intercept form of the line that contains the point $(9, -3)$ and is parallel to the graph of $y = \frac{1}{3}x + 2$.
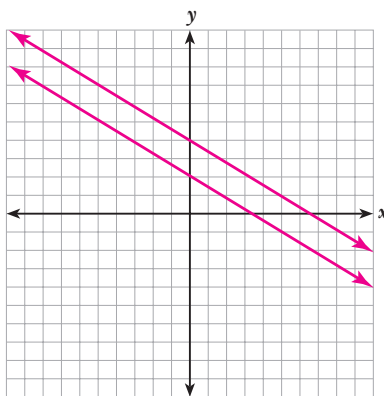
$y = \frac{1}{3}x - 6$

18. Find the equation in slope-intercept form of the line that contains the point $(1, 4)$ and is perpendicular to the graph of $y = -x$.

$y = x + 3$

19. Find the equation in slope-intercept form of the line that passes through the point $(1, -2)$ and is parallel to the line through the points $(1, 1)$ and $(2, 2)$.

$y = x - 3$

20. Find the slope and y-intercept of $2x + 3y = 6$.

$-\frac{2}{3};\ 2$

21. Find the slope and y-intercept of $4x - 5y = 15$.

$\frac{4}{5};\ -3$

22. Given $y = -\frac{3}{5}x + 4$, determine the resulting equation when the y-intercept is decreased by 2. Compare the graphs.

$y = -\frac{3}{5}x + 2$

The lines are parallel. The resulting line

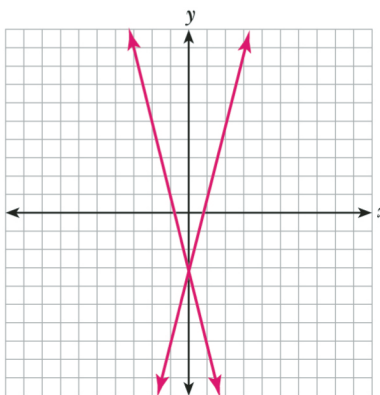**intersects the y-axis two units lower than**

the given line.

23. Find an equation of the line in slope-intercept form with the same *y*-intercept and opposite slope as the line $y = -4x - 3$. Compare the graphs.

$y = 4x - 3$

The given line rises to the left. The

resulting line rises to the right. The

lines intersect at the y-intercept.

24. What is the slope of the line that passes through the points (1, −1) and (4, 3)?

A. $\frac{3}{4}$ **B.** $\frac{4}{3}$ **C.** $-\frac{3}{4}$ **D.** $-\frac{4}{3}$

25. When the slope of the line is negative, the orientation of the line is described by which of the following terms?

A. Rises to the right   **B.** Rises to the left
C. Horizontal   **D.** Vertical

26. Answer the following questions in the space provided. Show all work. Be sure to label responses (A), (B), and (C).

A. Graph the line represented by the equation $-3x + 4y = 12$.

B. Multiply the slope of the line by 4 and increase its *y*-intercept by 3. Write the new equation. Graph the resulting line on the same coordinate plane.

$y = 3x + 6$

C. How are the two graphs related?

The resulting line is steeper and

intersects the y-axis three units up.