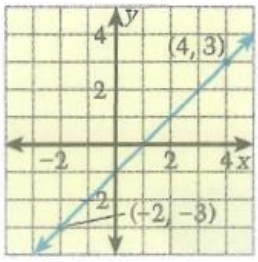
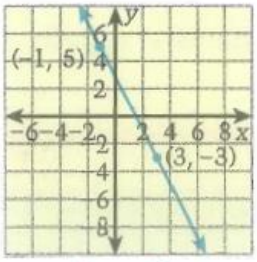
Practice Problems with answers

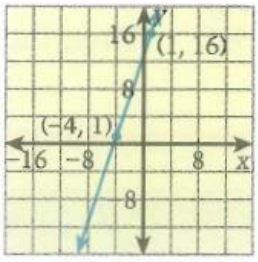
In Exercises 7–10, write the slope-intercept form of the equation of the line.

7. 

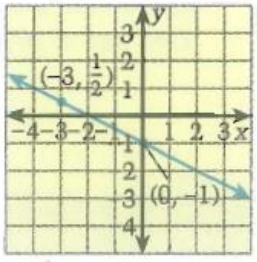
$y = x - 1$

8. 

$y = -2x + 3$

9. 

$y = 3x + 13$

10. 

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

In Exercises 11–22, write the slope-intercept form of the equation of the line that passes through the two points. See below.

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

11. $(-1, -1), (2, 8)$

12. $(1, 2), (4, -1)$

13. $(2, 0), (-4, -3)$

14. $(3, 1), (-3, 5)$

15. $(1, -4), (-2, 8)$

16. $(0, -4), (3, 2)$

17. $(2, -5), (-1, 1)$

18. $(-2, -1), (4, 2)$ $y = \frac{1}{2}x$

19. $(1, 1), (4, 4)$ $y = x$

20. $(1, 2), (2, 4)$ $y = 2x$

21. $(1, 3), (3, 3)$ $y = 3$

22. $(-1, -2), (3, -2)$ $y = -2$

23. Sketch the line that passes through $(2, 6)$ and $(-4, 3)$. Write its equation in slope-intercept form. $y = \frac{1}{2}x + 5$. See margin.

24. Sketch the line that passes through $(3, -3)$ and $(-3, 1)$. Write its equation in slope-intercept form. $y = -\frac{2}{3}x - 1$. See marg

25. Write an equation of the line whose x-intercept is -6 and whose y-intercept is -4. $y = -\frac{2}{3}x - 4$

26. Write an equation of the line whose x-intercept is -1 and whose y-intercept is 3. $y = 3x + 3$

11. $y = 3x + 2$ 12. $y = -x + 3$ 15. $y = -4x$ 16. $y = 2x - 4$ 17. $y = -2x - 1$

Independent Practice

In Exercises 9–14, write an equation of the line that passes through the point and has the given slope. Then rewrite the equation in slope-intercept form. See margin.

9. $(1, 3), m = \frac{1}{3}$

10. $(2, 4), m = -2$

11. $(-1, 2), m = -1$

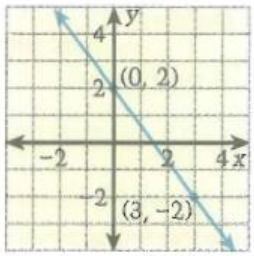
12. $(-2, 3), m = 2$

13. $(1, -1), m = \frac{1}{2}$

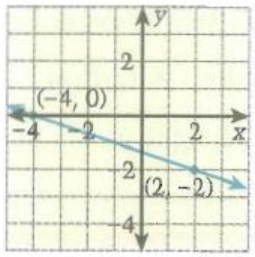
14. $(3, -2), m = -\frac{1}{2}$

In Exercises 15–18, write an equation of the line. See margin.

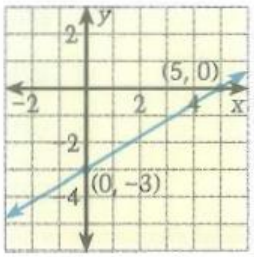
15.



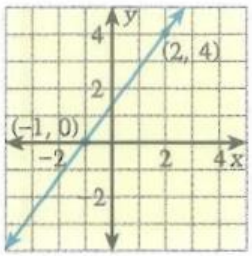
16.



17.



18.



Answers

9. $y = \frac{1}{3}x + \frac{8}{3}$
10. $y = -2x + 8$
11. $y = -x + 1$
12. $y = 2x + 7$
13. $y = \frac{1}{2}x - \frac{3}{2}$
14. $y = -\frac{1}{2}x - \frac{1}{2}$

15. $y = -4/3\,x + 2$

16. $y = -1/3\,x - 4/3$

17. $y = 3/5\,x - 3$

18. $y = 4/3\,x + 4/3$

In Exercises 21–26, determine which form would be best to use to find an equation of the line. Explain your answer. Then use the form to find an equation of the line. See margin.

21. The line has a slope of $\frac{2}{3}$ and passes through the point $(0, 4)$.

22. The line passes through the points $(1, 3)$ and $(-2, 4)$.

23. The line has a slope of 2 and a y-intercept of -3.

24. The line passes through the points $(1, 6)$ and $(1, -5)$.

25. The line has a slope of 1 and passes through the point $(1, -4)$.

26. The line has a slope of 0 and passes through the point $(2, 5)$.

21. $y = 2/3\,x + 4$

22. $y = -1/3\,x + 10/3$

23. $y = 2x - 3$

24. $x = 1$

25. $y = x - 5$

26. $y = 5$