

**Practice 5-7***Mixed Exercises*

Graph each equation.

- |                   |                     |                   |                     |
|-------------------|---------------------|-------------------|---------------------|
| 1. $x + y = 3$    | 2. $x + 3y = -9$    | 3. $-2x + 3y = 6$ | 4. $5x - 4y = -20$  |
| 5. $3x + 4y = 12$ | 6. $7x + 3y = 21$   | 7. $3x - 5y = 15$ | 8. $2x - 3y = 4$    |
| 9. $x + 4y = 4$   | 10. $3x - 2y = -6$  | 11. $5x + 2y = 5$ | 12. $-7x + 2y = 14$ |
| 13. $3x + y = 3$  | 14. $-3x + 5y = 15$ | 15. $2x + y = 3$  | 16. $8x - 3y = 24$  |

Graph each equation using a graphing calculator. Make a sketch of the graph. Include Xmin, Xmax, Ymin, Ymax, and the  $x$ - and  $y$ -intercepts.

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|----------------------|-----------------------|----------------------|-----------------------|
| 17. $6x + 5y = 90$   | 18. $4x + 7y = 84$    | 19. $9x + 5y = 180$  | 20. $3x + 8y = -120$  |
| 21. $7x - 10y = 140$ | 22. $-6x + 11y = 132$ | 23. $5x - 4y = -140$ | 24. $-11x + 3y = 165$ |

Write an equation for a line through the given point with the given slope using the  $Ax + By = C$  form.

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|--------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 25. $(3, 1); m = 4$            | 26. $(5, 4); m = 2$             | 27. $(-3, 3); m = -2$           | 28. $(6, -2); m = 5$            |
| 29. $(2, -7); m = \frac{2}{3}$ | 30. $(9, 7); m = -4$            | 31. $(-1, 2); m = -\frac{4}{5}$ | 32. $(-5, 1); m = -\frac{1}{5}$ |
| 33. $(6, -7); m = \frac{5}{2}$ | 34. $(-4, -1); m = \frac{7}{3}$ | 35. $(-4, 2); m = -\frac{1}{3}$ | 36. $(-8, 10); m = -6$          |

37. The drama club sells 200 lb of fruit to raise money. They sell the fruit in 5-lb bags and 10-lb bags.

a. Write an equation to find the number of each type of bag that they should sell.

b. Graph your equation.

c. Use your graph to find two different combinations of types of bags.

38. The student council is sponsoring a carnival to raise money. Tickets cost \$5 for adults and \$3 for students. They want to raise \$450.

a. Write an equation to find the number of each type of ticket they should sell.

b. Graph your equation.

c. Use your graph to find two different combinations of tickets sold.

39. Anna goes to a store to buy \$70 worth of flour and sugar for her bakery. A bag of flour costs \$5 and a bag of sugar costs \$7.

a. Write an equation to find the number of bags of each type Anna can buy.

b. Graph your equation.

# Practice 5-8

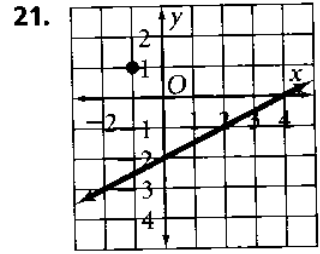
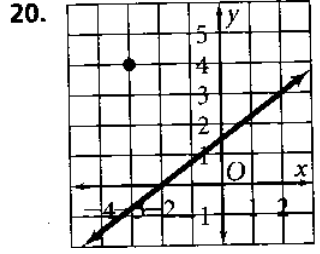
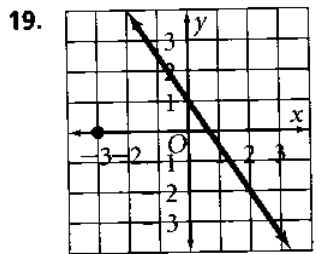
## Mixed Exercises

Find the slope of a line parallel to the graph of each equation.

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|------------------|---------------------------|-------------------|----------------------------|
| 1. $y = 4x + 2$  | 2. $y = \frac{2}{7}x + 1$ | 3. $y = -9x - 13$ | 4. $y = -\frac{1}{2}x + 1$ |
| 5. $6x + 2y = 4$ | 6. $y - 3 = 0$            | 7. $-5x + 5y = 4$ | 8. $9x - 5y = 4$           |
| 9. $-x + 3y = 6$ | 10. $6x - 7y = 10$        | 11. $x = -4$      | 12. $-3x - 5y = 6$         |

Write an equation of a line that contains the given point and is perpendicular to the given line.

- |                                     |                            |                                      |
|-------------------------------------|----------------------------|--------------------------------------|
| 13. $(6, 4); y = 3x - 2$            | 14. $(-5, 5); y = -5x + 9$ | 15. $(-1, -4); y = \frac{1}{6}x + 1$ |
| 16. $(1, 1); y = -\frac{1}{4}x + 7$ | 17. $(12, -6); y = 4x + 1$ | 18. $(0, -3); y = -\frac{4}{3}x - 7$ |



Write an equation of a line that contains the given point and is parallel to the given line.

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|------------------------------------|---------------------------------------|-----------------------------|
| 22. $(3, 4); y = 2x - 7$           | 23. $(1, 3); y = -4x + 5$             | 24. $(4, -1); y = x - 3$    |
| 25. $(4, 0); y = \frac{3}{2}x + 9$ | 26. $(-8, -4); y = -\frac{3}{4}x + 5$ | 27. $(9, -7); -7x - 3y = 3$ |

