Independent Practice

eHelp

Solve each equation. Check your solution. (Examples 1 and 3)

12. $9x = 5.4$

13. $0.5s = -60$

14. $6.4 = -0.4r$

15 $-7.2 = 3y$

16. $0.3x = -4.5$

17. $4.95 = 0.3t$

18. $-8.4 = -6g$

19. $-28 = -\frac{1}{14}d$

20. $\frac{1}{9}b = -108$

21. $16 = -\frac{1}{4}b$

22. $-\frac{1}{8}x = -4$

23. $-\frac{4}{9} = -\frac{4}{3}s$

24. $-\frac{25}{36} = -\frac{5}{6}r$

25. $-\frac{9}{10}k = 72$

26. $\frac{2}{3}n = -22$

27. Rashid picked a total of 420 strawberries in $\frac{5}{6}$ hour. Write and solve an equation to find how many strawberries Rashid could pick in 1 hour. (Example 2)

28. **Financial Literacy** Marcus wants to save \$378 in order to buy a new electronic keyboard. He plans to save \$15.75 every week from his paycheck. Write and solve an equation to find how many weeks Marcus will need to save. (Example 2)

Solve each equation. Check your solution.

29. $5p - 2p = -12$

30. $42 = 4x + 3x$

31. $-2(6y) = 144$

32. $72 = -12(-3x)$

33. $\frac{r}{4} = -25 + 9$

34. $\frac{m}{-3} = -5 - 18$

35. $\frac{1}{3}n = \frac{2}{9}$

36. $\frac{5}{8} = -\frac{1}{2}x$

37. $-0.7 = -\frac{7}{9}z$

38. $1\frac{7}{8}y = 4\frac{1}{2}$

39. $2\frac{1}{3} = -9m$

40. $-\frac{7}{9}t = -\frac{28}{36}$

41. The sleeping heart rate of a black bear during hibernation is about $\frac{2}{5}$ of its summer rate. If the sleeping heart rate of a bear is 28 beats per minute during hibernation, find the summer sleeping heart rate.

42. **Use the table to help you write and solve an equation.**

   a. Jenna hikes at a steady rate of 2.5 miles per hour. How long will it take her to hike the Lone Star Trail?

   b. It takes Ming 4 hours to hike the Mallard Lake Trail. What is his average hiking rate?

   c. The round-trip distance of the Observation Point Trail is 56% of the round-trip distance of the Mystic Falls Trail. What is the round-trip distance of the Mystic Falls Trail?

Yellowstone National Park, Wyoming	
Name of Trail	Round-Trip Distance (mi)
Mallard Lake	6.8
Howard Eaton	5.8
Lone Star	4.8
Observation Point	1.4

43. **CCSS** **Use Math Tools** A student solved the equation $\frac{9}{10}m = 5\frac{1}{10}$ and found the solution $m = 459$. Use estimation to explain why the student's solution must be incorrect.

44. **CCSS** **Identify Structure** Explain how to use the Multiplication Property of Equality to solve $\frac{2}{5}y = 6$. Then explain how to solve the equation using the Division Property of Equality.

Handwritten work (margins):

$4.95 = 0.3t$

$\dfrac{0.3t}{0.3} = \dfrac{4.95}{0.3}$

$t = 16.5$

$\dfrac{20}{2} = \dfrac{8}{2} + \dfrac{12}{2}$

$10 = 4 + 6$

39.

$2\frac{1}{3} = -9m$

$-\frac{1}{9}\left(\frac{7}{3}\right) = -\frac{1}{9}(-9m)$

$-\frac{1}{9}\left(\frac{7}{3}\right) = m$

$-\frac{7}{27} = m$

25. $-\frac{9}{10}k = 72$

$\dfrac{-\frac{9}{10}}{-\frac{9}{10}} \quad \dfrac{72}{-\frac{9}{10}}$

$72 \div \left(-\frac{9}{10}\right)$

$72 \times \left(-\frac{10}{9}\right) = \frac{80}{1}$

27. Rashid picked a total of 420 strawberries in $\frac{5}{6}$ hour. Write and solve an equation to find how many strawberries Rashid could pick in 1 hour. (Example 2)

400 STRAWBERRIES IN $\frac{1}{2}$ HOUR = 800 STRAWBERRIES / HOUR

$400 \div \frac{1}{2} = 400 \cdot 2 = 800$

$\frac{420}{\frac{5}{6}} = 420 \cdot \frac{6}{5} = \frac{2520}{5} = 504$

$\frac{420}{\frac{1}{6}} = \frac{420 \cdot 6}{1} = 2520$

45 🏠 **CCSS** **Multiple Representations** Every autumn, the North American Monarch butterfly migrates up to 3000 miles to California and Mexico, where it hibernates until early spring. Suppose a particular butterfly travels on average 52.5 miles per day.

a. **Symbols** Write an equation that represents the distance d the butterfly will travel in t days.

b. **Table** Use the equation to complete the table.

Time (days)	1	2	3	4	5	6
Distance (miles)	■	■	■	■	■	■

c. **Graph** Graph the points from the table on the coordinate plane. Graph time on the x-axis and distance on the y-axis.

d. **Graph** Using the graph, estimate the number of days it will take the butterfly to travel 475 miles.

e. **Words** How many days will it take the butterfly to travel 2100 miles? Which method did you use to solve the problem?

46. The formula for finding the area of a triangle is $A = \frac{1}{2}bh$, where A represents the area, b represents the length of the base of the triangle, and h represents the height of the triangle. Write and solve equations to complete the table of values.
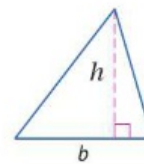
Area (A)	15	15	15	15	15
Base (b)	1	2	3	4	5
Height (h)	■	■	■	■	■

🔥 **H.O.T. Problems** Higher Order Thinking

47. **CCSS** **Model with Mathematics** Write a real-world example that uses an equation containing a decimal and a fraction. Then find the solution.

48. **CCSS** **Find the Error** Sam is solving $\frac{1}{4}x = -20$. Find his mistake and correct it.

$$\frac{1}{4}x \div 4 = -20 \div 4$$
$$x = -5$$

$\frac{10}{5}\left(\frac{5}{10}m\right) = (0.75)\frac{10}{5}$

$1m \qquad \frac{7.5}{5}$

$m = 1.5$

49. **CCSS** **Justify Conclusions** When you solve an equation of the form $px = q$, where p and q are rational numbers and $p \neq 0$, is it ever possible for the solution to be 0? If so, when? If not, why not? Justify your conclusion.

$m = (0.75)2$

$m = 1.5$

50. **CCSS** **Persevere with Problems** If $\frac{3}{10}x = 3$, what is the value of $7x + 13$?

51. ⓔ **Building on the Essential Question** Suppose your friend says he can solve $3x = 15$ by using the Multiplication Property of Equality. Is he correct? Justify your response.