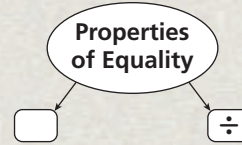


THINK AND DISCUSS

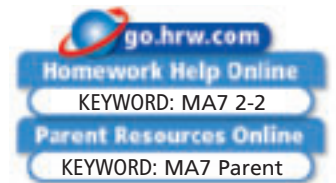


1. Tell how the Multiplication and Division Properties of Equality are similar to the Addition and Subtraction Properties of Equality.
2. **GET ORGANIZED** Copy and complete the graphic organizer. In each box, write an example of an equation that can be solved by using the given property, and solve it.



2-2

Exercises



GUIDED PRACTICE

SEE EXAMPLE 1 Solve each equation. Check your answer.

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1. $\frac{k}{4} = 8$

2. $\frac{z}{3} = -9$

3. $-2 = \frac{w}{-7}$

4. $6 = \frac{t}{-5}$

5. $\frac{g}{1.9} = 10$

6. $2.4 = \frac{b}{5}$

SEE EXAMPLE 2 7. $4x = 28$

8. $-64 = 8c$

9. $-9j = -45$

p. 85

10. $84 = -12a$

11. $4m = 10$

12. $2.8 = -2h$

SEE EXAMPLE 3 13. $\frac{1}{2}d = 7$

14. $15 = \frac{5}{6}f$

15. $\frac{2}{3}s = -6$

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16. $9 = -\frac{3}{8}r$

17. $\frac{1}{10} = \frac{4}{5}y$

18. $\frac{1}{4}v = -\frac{3}{4}$

SEE EXAMPLE 4 19. **Recreation** The Baseball Birthday Batter Package at a minor league ballpark costs \$192. The package includes tickets, drinks, and cake for a group of 16 children. Write and solve an equation to find the cost per child.

p. 86

20. **Nutrition** An orange contains about 80 milligrams of vitamin C, which is 10 times as much as an apple contains. Write and solve an equation to find the amount of vitamin C in an apple.

PRACTICE AND PROBLEM SOLVING

Solve each equation. Check your answer.

21. $\frac{x}{2} = 12$

22. $-40 = \frac{b}{5}$

23. $-\frac{j}{6} = 6$

24. $-\frac{n}{3} = -4$

25. $-\frac{q}{5} = 30$

26. $1.6 = \frac{d}{3}$

27. $\frac{v}{10} = 5.5$

28. $\frac{h}{8.1} = -4$

29. $5t = -15$

30. $49 = 7c$

31. $-12 = -12u$

32. $-7m = 63$

33. $-52 = -4c$

34. $11 = -2z$

35. $5f = 1.5$

36. $-8.4 = -4n$

Independent Practice

For Exercises	See Example
21–28	1
29–36	2
37–44	3
45	4

Extra Practice

Skills Practice p. S6

Application Practice p. S29

Solve each equation. Check your answer.

37. $\frac{5}{2}k = 5$ 38. $-9 = \frac{3}{4}d$ 39. $-\frac{5}{8}b = 10$ 40. $-\frac{4}{5}g = -12$
 41. $\frac{4}{7}t = -2$ 42. $-\frac{4}{5}p = \frac{2}{3}$ 43. $\frac{2}{3} = -\frac{1}{3}q$ 44. $-\frac{5}{8} = -\frac{3}{4}a$

45. **Finance** After taxes, Alexandra’s take-home pay is $\frac{7}{10}$ of her salary before taxes. Write and solve an equation to find Alexandra’s salary before taxes for the pay period that resulted in \$392 of take-home pay.
 46. **Earth Science** Your weight on the Moon is about $\frac{1}{6}$ of your weight on Earth. Write and solve an equation to show how much a person weighs on Earth if he weighs 16 pounds on the Moon. How could you check that your answer is reasonable?
 47. **/// ERROR ANALYSIS ///** For the equation $\frac{x}{3} = 15$, a student found the value of x to be 5. Explain the error. What is the correct answer?



Geometry The perimeter of a square is given. Write and solve an equation to find the length of each side of the square.

48. $P = 36$ in. 49. $P = 84$ in. 50. $P = 100$ yd 51. $P = 16.4$ cm



Statistics



American Robert P. Wadlow (1918–1940) holds the record for world’s tallest man—8 ft 11.1 in. He also holds world records for the largest feet and hands.

Source: Guinness World Records 2005

Write an equation to represent each relationship. Then solve the equation.

52. Five times a number is 45.
 53. A number multiplied by negative 3 is 12.
 54. A number divided by 4 is equal to 10.
 55. The quotient of a number and 3 is negative 8.
 56. **Statistics** The mean height of the students in Marta’s class is 60 in. There are 18 students in her class. Write and solve an equation to find the total measure of all students’ heights. (*Hint:* The mean is found by dividing the sum of all data values by the number of data values.)
 57. **Finance** Lisa earned \$6.25 per hour at her after-school job. Each week she earned \$50. Write and solve an equation to show how many hours she worked each week.
 58. **Critical Thinking** Will the solution of $\frac{x}{2.1} = 4$ be greater than 4 or less than 4? Explain.
 59. **Consumer Economics** Dion’s long-distance phone bill was \$13.80. His long-distance calls cost \$0.05 per minute. Write and solve an equation to find the number of minutes he was charged for. Show that your answer is reasonable.
 60. **Nutrition** An 8 oz cup of coffee has about 184 mg of caffeine. This is 5 times as much caffeine as in a 12 oz soft drink. Write and solve an equation to find about how much caffeine is in a 12 oz caffeinated soft drink. Round your answer to the nearest whole number. Show that your answer is reasonable.

Use the equation $8y = 4x$ to find y for each value of x .

	x	$4x$	$8y = 4x$	y
61.	-4	$4(-4) = -16$	$8y = -16$	■
62.	-2	■	■	■
63.	0	■	■	■
64.	2	■	■	■