Margin Exercise Answers

1. a. 4 **b.** 7 **c.** 1 **d.** 86 **2. a.** Undefined **b.** 0 **3.** 69 R1 **4.** 21 R4

5. 308 R23 **6.** 26 R4 **7.**
$$\begin{array}{r} 68 \\ 26\overline{)1768} \\ -156 \\ \hline 208 \\ -208 \\ \hline 0 \end{array}$$
8. $238

1.4 Exercises

Concept Check

Fill-in-the-Blank. Complete each sentence using information found in this section.

1. When dividing, the remainder must be less than the _____.

2. To check a division problem, multiply the quotient by the divisor and then add the _____. The result should be the _____.

3. When any nonzero number is divided by itself, the result is always _____.

4. Factors can be called _____ of the dividend.

5. When a number is divided by zero, the result is always _____.

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

6. If a division problem has a nonzero remainder, then the divisor and quotient are factors of the dividend.

7. $13 \div 1 = 13$

8. $12 \div 0 = 12$

9. $\frac{0}{7}$ is undefined.

Practice

Divide. See Examples 2 through 6.

1. $5\overline{)35}$

2. $8\overline{)48}$

3. $6\overline{)72}$

4. $3\overline{)51}$

5. $13\overline{)0}$

6. $42\overline{)0}$

7. $6\overline{)32}$

8. $4\overline{)25}$

9. $0\overline{)23}$

10. $0\overline{)51}$

11. $240 \div 6$

12. $120 \div 4$

13. $205 \div 5$

14. $217 \div 7$

15. $7\overline{)310}$

16. $9\overline{)800}$

17. $12\overline{)108}$

18. $16\overline{)128}$

19. $600 \div 25$

20. $182 \div 13$

21. $15\overline{)750}$

22. $13\overline{)260}$

23. $312 \div 20$

24. $161 \div 15$

25. $20\overline{)305}$

26. $27\overline{)356}$

27. $30\overline{)847}$

28. $13\overline{)305}$

29. $73\overline{)148}$

30. $68\overline{)207}$

31. $49\overline{)993}$

32. $27\overline{)841}$

33. $68\overline{)210}$

34. $47\overline{)237}$

35. $11\overline{)4406}$

36. $13\overline{)3917}$

37. $50\overline{)3065}$

38. $40\overline{)2163}$

39. $502\overline{)98,762}$

40. $317\overline{)70,365}$

41. $417\overline{)169,719}$

42. $201\overline{)105,123}$

Verify the given factors.

43. Show that 22 and 32 are both factors of 704 by using long division.

44. Show that 28 and 36 are both factors of 1008 by using long division.

45. Show that 35 and 45 are both factors of 1575 by using long division.

46. Show that 56 and 39 are both factors of 2184 by using long division.

Applications

Solve.

47. A mother has 12 cookies that she will divide equally among 4 children. How many cookies will each child get?

48. One pint of Ben and Jerry's Crème Brûlée Ice Cream has 64 grams of fat. If there are 4 servings per pint, how many grams of fat are in each serving?

49. Mia Scott tutors students in reading and makes $25 per student. If she made $475 in a week, how many students did she tutor?

50. A box of cereal has a net weight of 429 grams. If a serving of cereal is 33 grams, how many servings are there per box of cereal?

51. If one person can paint a small house in 48 hours, how long will it take a crew of 8 people to paint the house, assuming that all 8 work at the same speed and do not interfere with each other?

52. Seven students sold a total of 392 raffle tickets. Assuming that each student sold the same number of raffle tickets, how many tickets did each student sell?

53. The Cedarville Baseball Camp has 198 children in attendance. How many 9-member teams can this club have if each child plays on one team?

54. US Astronaut Peggy Whitson orbited the Earth 6032 times during her space flights on the International Space Station. If the International Space Station orbits the Earth 16 times per day, how many days was Peggy Whitson in space?[2]

55. A community has 5978 square feet available for individual gardens, which will be evenly distributed among 14 people. How much space will each person get?

56. Thirteen men purchase a boat together. If the cost of the boat is $33,462, how much will each man contribute if each contributes an equal amount?

57. A large chicken farm ships 65,076 eggs during a typical week. How many dozen eggs does this represent? (**Note:** dozen = 12)

58. For the 2021–2022 academic year, the average tuition cost for four years at a public, 4-year institution was $37,396. If tuition did not increase each year, how much would you pay per year for the four years you were in college?[3]

59. Smithfield High School paid $29,022 for six upright pianos. How much did each piano cost?

60. The area of every NFL football field is 57,600 square feet. If a bag of grass seed covers 50 square feet, how many bags of grass seed will be needed to cover one football field?[4]

61. 262,800 pounds of pasta is served every year at Mama Melrose's Ristorante Italiano at Disney MGM studios. How many pounds of pasta are served every day, assuming the restaurant is open 365 days in each year?[5]

62. Sophia decides to use a store credit deal where she won't have to pay any interest on her purchase if she pays off the entire purchase amount within a year. She bought $1920 worth of furniture and plans to make equal-sized monthly payments for six months. How much will Sophia pay per month?

63. Xander has $150 to spend on video games at a summer sale. If the average price of a video game is $16 (including tax), how many games can he buy? How much money will he have left over?

64. A lantern manufacturer is preparing their newly created lanterns for storage at the warehouse. There are 7685 lanterns packaged and ready to go. Only 8 packaged lanterns can fit into a box. How many boxes are needed? How many lanterns are left over and not boxed?

Writing & Thinking

65. List the four terms used for the parts of a division problem. Then give an example of a division problem and label the parts using those terms.

66. Explain how you would check a division problem that has a nonzero remainder.

67. Discuss how division is related to multiplication.

68. Give an example of when you might use division (other than in a class).

2 Source: National Aeronautics and Space Administration
3 Source: educationdata.org/average-cost-of-college
4 Source: National Football League
5 Source: www.diningindisney.com