


# 1.6 Exercises

FOR  
EXTRA  
HELP


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Decide where the first digit in the quotient would be located. Then without finishing the division, you can tell which of the three choices is the correct answer. Circle your choice. See Examples 1 and 2.

1.  $50 \overline{)2650}$   
5 53 530

2.  $14 \overline{)476}$   
3 34 304

3.  $18 \overline{)4500}$   
2 25 250

4.  $35 \overline{)5600}$   
16 160 1600

5.  $86 \overline{)10,327}$   
12 120 R7 1200

6.  $46 \overline{)24,026}$   
5 52 522 R14

7.  $26 \overline{)28,735}$   
11 110 1105 R5

8.  $12 \overline{)116,953}$   
974 R2 9746 R1 97,460

9.  $21 \overline{)149,826}$   
71 713 7134 R12

10.  $64 \overline{)208,138}$   
325 R2 3252 R10 32,521

11.  $523 \overline{)470,800}$   
9 R100 90 R100 900 R100

12.  $230 \overline{)253,230}$   
11 110 1101

Divide by using long division. Use multiplication to check each answer. See Examples 1–3.

13.  $18 \overline{)1319}$

14.  $58 \overline{)3654}$

15.  $23 \overline{)10,963}$

16.  $83 \overline{)39,692}$

17.  $26 \overline{)62,583}$

18.  $28 \overline{)84,249}$

19.  $74 \overline{)84,819}$

20.  $238 \overline{)186,948}$

21.  $153 \overline{)509,725}$

22.  $308 \overline{)26,796}$

23.  $420 \overline{)357,000}$

24.  $900 \overline{)153,000}$

Use multiplication to check each answer. If an answer is incorrect, find the correct answer.  
See Example 6.

$$25. \begin{array}{r} 101 \text{ R}4 \\ 35 \overline{)3549} \end{array}$$

$$26. \begin{array}{r} 42 \text{ R}26 \\ 64 \overline{)2712} \end{array}$$

$$27. \begin{array}{r} 658 \text{ R}9 \\ 28 \overline{)18,424} \end{array}$$

$$28. \begin{array}{r} 239 \text{ R}121 \\ 145 \overline{)34,776} \end{array}$$

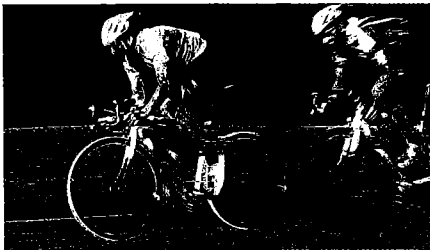
$$29. \begin{array}{r} 62 \text{ R}3 \\ 614 \overline{)38,068} \end{array}$$

$$30. \begin{array}{r} 174 \text{ R}368 \\ 557 \overline{)97,286} \end{array}$$

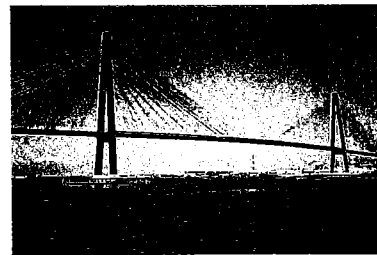
31. Describe in your own words a shortcut you can use to divide multiples of 10 by 10, by 100, or by 1000. Write an example problem and solve it.
32. Suppose you have a division problem with a remainder in the answer. Explain how to check your answer by writing an example problem that has a remainder.

Solve each application problem by using addition, subtraction, multiplication, or division as needed. See Examples 3–5.

33. A cross-country cyclist will ride 90 miles each day. If the coast-to-coast distance that the rider travels is 3150 miles, how many days will it take to cross the country?

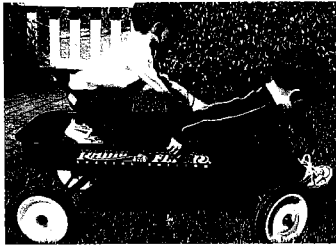


34. A new bridge from Owensboro, Kentucky, to Rockport, Indiana, is 2200 feet long and cost \$55,998,800. Find the construction cost per foot. (Source: Federal Highway Administration.)



35. Don Gracey, the Mountain Timesmith, has serviced and repaired 636 clocks this year. He has worked on 272 wall clocks and 308 table clocks. The remainder were standing floor clocks. Find the number of floor clocks he worked on this year.
36. Two-separated parents each share some of the \$3718 education costs of their child. If one parent paid \$1880, how much did the other pay?
37. To complete her college education, Judy Martinez received education loans of \$34,080 including interest. Find her monthly payment if the loan is to be paid off in 96 months (8 years).
38. A consultant charged \$13,050 for evaluating a school's compliance with the Americans with Disabilities Act. If the consultant worked 225 hours, find the rate charged per hour.

39. Radio Flyer, Inc. manufactures 1000 wagons each hour. How many wagons can be manufactured in one month of 22 workdays of 8 hours per day? (Source: Costco Connection.)
40. There are two conveyor lines at Marton Salt Company, each of which packages 240 sacks of salt per hour. If the lines operate for 8 hours, find the total number of sacks of salt packaged by the two lines.



41. The average U.S. household of 2.5 people spent \$2028 eating away from home last year. Find the average weekly household cost of eating away from home. (Hint: 1 year equals 52 weeks.) (Source: U.S. Bureau of Labor Statistics consumer expenditure surveys.)
42. Former professional basketball player Junior Bridgeman now owns 120 Wendy's restaurants with 4080 employees. Find the average number of employees at each restaurant. (Source: National Basketball Retired Players Association.)

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**RELATING CONCEPTS (EXERCISES 43–50) For Individual or Group Work**

*Knowing and using the rules of divisibility is necessary in problem solving.*

*Work Exercises 43–50 in order.*

43. If you have \$0 and you divide this amount among three people, how much will each receive?
44. When 0 is divided by any nonzero number, the result is \_\_\_\_\_.
45. Divide.  
 $8 \div 0$
46. We say that division by 0 is *undefined* because it is \_\_\_\_\_ to compute the answer. Give an (possible/impossible) example involving cookies that will support your answer.
47. Divide.  
(a)  $14 \div 1$   
(b)  $1 \overline{)17}$   
(c)  $\frac{38}{1}$
48. Any number divided by 1 is the number itself. Is this also true when multiplying by 1? Give three examples that support your answer.
49. Divide.  
(a)  $32,000 \div 10$   
(b)  $32,000 \div 100$   
(c)  $32,000 \div 1,000$
50. Write a rule that explains the shortcut for doing divisions like the ones in Exercise 49.