

On Your Own

Now You're Ready
Exercises 21–23

Find the value of the expression. Use estimation to check your answer.

4. $234 \div 9$ 5. $\frac{986}{58}$ 6. $840 \div 105$
7. Find the quotient of 9920 and 320.

When you use long division to divide whole numbers and you obtain a remainder, you can write the quotient as a mixed number using the rule

$$\text{dividend} \div \text{divisor} = \text{quotient} + \frac{\text{remainder}}{\text{divisor}}$$

EXAMPLE 4 Real-Life Application



A 301-foot-high swing at an amusement park can take 64 people on each ride. A total of 8983 people ride the swing today. All the rides are full except for the last ride. How many rides are given? How many people are on the last ride?

To find the number of rides given, you need to find the number of groups of 64 people in 8983 people. The phrase *groups of 64 people in 8983 people* indicates you need to find the quotient of 8983 and 64.

Divide the place-value positions from left to right.

$$\begin{array}{r} 140 \text{ R}23 \\ 64 \overline{)8983} \\ \underline{-64} \\ 258 \\ \underline{-256} \\ 23 \\ \underline{-0} \\ 23 \end{array}$$

There is one group of 64 in 89.

There are four groups of 64 in 258.

There are no groups of 64 in 23.

The remainder is 23.

Do not stop here. You must write a 0 in the ones place of the quotient.

The quotient is $140\frac{23}{64}$. This indicates 140 groups of 64, with 23 remaining.

So, 141 rides are given, with 23 people on the last ride.

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Exercises 24–26

Find the value of the expression. Use estimation to check your answer.

8. $\frac{6096}{30}$ 9. $45,691 \div 28$ 10. $3215 \div 430$
11. **WHAT IF?** In Example 4, 9038 people ride the swing. What is the least number of rides possible?

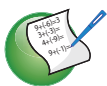


Vocabulary and Concept Check

VOCABULARY Determine which operation the word or phrase represents.

- | | | |
|-----------------|-------------|--------------------|
| 1. sum | 2. times | 3. the quotient of |
| 4. decreased by | 5. total of | 6. minus |
7. **VOCABULARY** Use the division problem shown to tell whether the number is the divisor, dividend, or quotient.
- | | | |
|--------|-------|-------|
| a. 884 | b. 26 | c. 34 |
|--------|-------|-------|

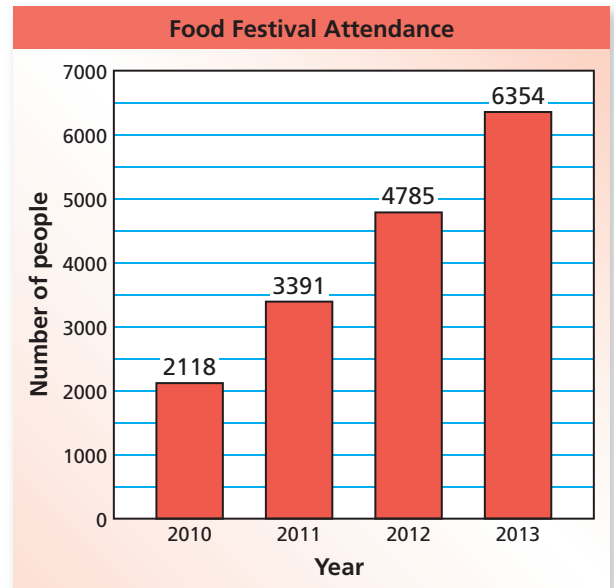
$$\begin{array}{r} 26 \\ 34 \overline{)884} \end{array}$$



Practice and Problem Solving

The bar graph shows the attendance at a food festival. Write an expression you can use to answer the question. Then find the value of your expression.


- What is the total attendance at the food festival from 2010 to 2013?
- How many more people attended the food festival in 2012 than in 2011?
- How many times more people attended the food festival in 2013 than in 2010?
- The festival projects that the total attendance for 2014 will be twice the attendance in 2012. What is the projected attendance for 2014?




Find the value of the expression. Use estimation to check your answer.

- | | | |
|--|---|---|
| 12. $2219 + 872$ | 13. $\begin{array}{r} 5351 \\ + 1730 \end{array}$ | 14. $3968 + 1879$ |
| 15. $7694 - 5232$ | 16. $9165 - 4729$ | 17. $\begin{array}{r} 2416 \\ - 1983 \end{array}$ |
| 18. $\begin{array}{r} 84 \\ \times 37 \end{array}$ | 19. 124×56 | 20. 419×236 |
| 21. $837 \div 27$ | 22. $\frac{588}{84}$ | 23. $7440 \div 124$ |
| 24. $6409 \div 61$ | 25. $8241 \div 173$ | 26. $\frac{33,505}{160}$ |

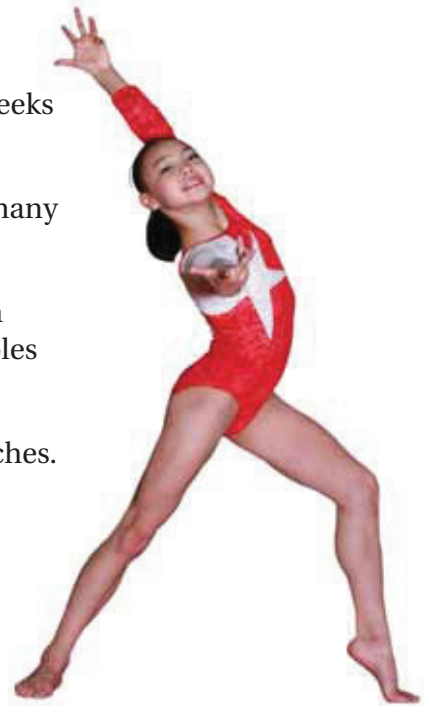
ERROR ANALYSIS Describe and correct the error in finding the value of the expression.

27. 
$$\begin{array}{r} 39 \\ \times 17 \\ \hline 273 \\ 39 \\ \hline 312 \end{array}$$

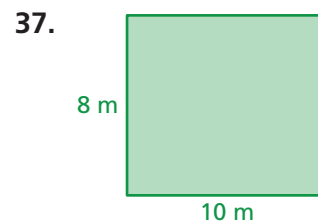
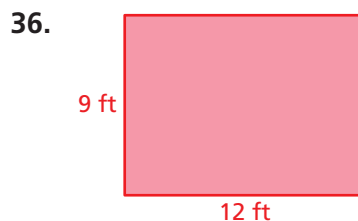
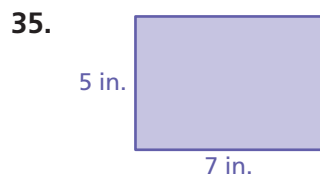
28. 
$$\begin{array}{r} 19 \\ 12 \overline{)1308} \\ \underline{-12} \\ 108 \\ \underline{-108} \\ 0 \end{array}$$

Determine the operation you would use to solve the problem. Do not answer the question.

29. Gymnastic lessons cost \$30 per week. How much will 18 weeks of gymnastic lessons cost?
30. The scores on your first two tests were 82 and 93. By how many points did your score improve?
31. You are setting up tables for a banquet for 150 guests. Each table seats 12 people. What is the minimum number of tables you will need?
32. A store has 15 boxes of peaches. Each box contains 45 peaches. How many peaches does the store have?
33. Two shirts cost \$18 and \$25. What is the total cost of the shirts?
34. A gardener works for 14 hours during a week and charges \$168. How much does the gardener charge for each hour?



Find the perimeter and area of the rectangle.



38. **BOX OFFICE** The number of tickets sold for the opening weekend of a movie is 879,575. The movie was shown in 755 theaters across the nation. What was the average number of tickets sold at each theater?
39. **LOGIC** You find that the product of 93 and 6 is 558. How can you use addition to check your answer? How can you use division to check your answer?
40. **NUMBER SENSE** Without calculating, decide which is greater: $3999 \div 129$ or $3834 \div 142$. Explain.