



Name \_\_\_\_\_ Date \_\_\_\_\_

## Greatest Common Factor (Pages 242–244)

Numbers may have common factors. The **greatest common factor (GCF)** of two numbers is the greatest number that is a factor of both the numbers. You can find the GCF of two numbers by listing their factors, or by finding the product of the prime factors common to both numbers.

### EXAMPLE

Find the GCF of 12 and 20.

Use prime factorization to find the GCF.

$$12 = 2 \cdot 2 \cdot 3$$

$$20 = 2 \cdot 2 \cdot 5$$

The common prime factors are 2 and 2. The GCF is  $2 \cdot 2$  or 4.

### Try These Together

1. Find the GCF of 18 and 21.

*HINT: What is the greatest number that divides both 18 and 21 evenly?*

2. Find the GCF of 28 and 49.

*HINT: What prime factors do these two numbers have in common?*

### PRACTICE

Find the GCF of each set of numbers.

- |            |              |              |
|------------|--------------|--------------|
| 3. 48, 64  | 4. 10, 65    | 5. 24, 60    |
| 6. 38, 42  | 7. 32, 96    | 8. 40, 50    |
| 9. 15, 33  | 10. 126, 342 | 11. 213, 153 |
| 12. 54, 81 | 13. 72, 48   | 14. 150, 360 |

15. **Design** Artesia is designing a cover for a book that is 8 inches by 10 inches. She wants to divide the cover into squares all the same size and put different designs in each square. What are the dimensions of the largest square she can use?



16. **Standardized Test Practice** Which two numbers have a GCF of 8?

- A** 40 and 66      **B** 32 and 48      **C** 24 and 28      **D** 8 and 16

Answers: 1. 3 2. 7 3. 16 4. 5 5. 12 6. 2 7. 32 8. 10 9. 3 10. 18 11. 3 12. 27 13. 24 14. 30  
15. 2 inches by 2 inches 16. D