

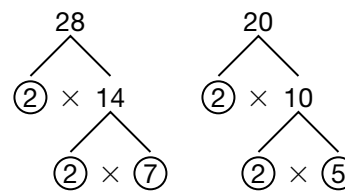
5-3

Name _____ Date _____

Greatest Common Factor (pages 188–190)

Two or more numbers may both have the same factor, called a common factor. The greatest of the common factors of two or more numbers is called the **greatest common factor** (GCF) of the numbers. There are two methods you can use to find the GCF of two or more numbers.

Method 1: Make a List	<ul style="list-style-type: none"> List all of the factors of each number. Identify the common factors. The greatest of the common factors is the GCF.
Method 2: Use Prime Factorization	<ul style="list-style-type: none"> Write the prime factorization of each number Identify all of the common prime factors. The product of the common prime factors is the GCF.

EXAMPLES**A** Find the GCF of 15 and 18.*Make a list of the factors of each number.**factors of 15: 1, 3, 5, 15**factors of 18: 1, 2, 3, 6, 9, 18**The common factors are 1 and 3.**The GCF of 15 and 18 is 3.***B** Find the GCF of 20 and 28.*Write the prime factorization of each number.*

The common prime factors are 2 and 2. The GCF of 20 and 28 is 2×2 , or 4.

Try These Together

1. Find the GCF of 14 and 28.

HINT: Make a list of factors.

2. Find the GCF of 32 and 44.

*HINT: Use factor trees to find the common prime factors.***PRACTICE****Find the GCF of each set of numbers by either method.**

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|------------|----------------|-----------------|
| 3. 7, 42 | 4. 10, 36 | 5. 44, 66 |
| 6. 30, 35 | 7. 4, 12, 28 | 8. 26, 52, 91 |
| 9. 62, 93 | 10. 59, 118 | 11. 25, 75 |
| 12. 30, 33 | 13. 14, 18, 22 | 14. 38, 57, 114 |

15. Sales Anton has made 24 gingersnaps, 60 peanut butter cookies, and 84 sugar cookies for a bake sale. What is the greatest number of boxes that he can pack them in so that the boxes contain the same number and types of cookies?

**16. Standardized Test Practice** What is the GCF of 40 and 72?**A** 2**B** 4**C** 8**D** 16

Answers: 1. 14 2. 4 3. 7 4. 2 5. 22 6. 5 7. 4 8. 13 9. 31 10. 59 11. 25 12. 3 13. 2 14. 19 15. 12 boxes 16. C