



Name _____

Greatest Common Factor

R 4-4

The **greatest common factor (GCF)** of two numbers is the largest factor both numbers share.

Find the **greatest common factor (GCF)** of 8 and 12.

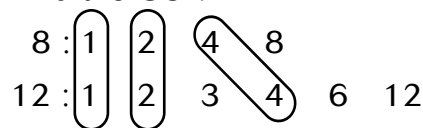
Step 1 Find the factors of 8 and 12.

$$8 : 1 \times 8; 2 \times 4$$

$$12 : 1 \times 12; 2 \times 6; 3 \times 4$$

The GCF of 8 and 12 is 4.

Step 2 List the factors from least to greatest. Circle the common factors. Find the GCF.



You can find the GCF of large numbers by using prime factorization.

$$36 = 2 \times 2 \times 3 \times 3$$

$$54 = 2 \times 3 \times 3 \times 3$$

The common prime factors are 2, 3, and 3. Multiply them together to find the GCF.

$$2 \times 3 \times 3 = 18. \text{ The GCF of 36 and 54 is 18.}$$

Find the greatest common factor (GCF).

1. 6, 20

2. 9, 27

3. 24, 32

4. 45, 75

5. 84, 168

6. 63, 91

7. 77, 132

8. 12, 39, 51

9. You have pictures of yourself playing sports. There are 18 basketball pictures, 6 softball pictures and 24 volleyball pictures. You want to display them on your website under each sport with the same number of pictures on each page. What is the greatest number of pictures you can have on a page?
