

Lesson 1.7 Greatest Common Factor

A **factor** is a divisor of a number. (For example, 3 and 4 are both factors of 12.) A **common factor** is a divisor that is shared by two or more numbers (1, 2, 4, and 8). The **greatest common factor** is the largest common factor shared by the numbers (8).

To find the greatest common factor of 32 and 40, list all of the factors of each.

$$32 \begin{array}{l} \swarrow 1 \times 32 \\ 2 \times 16 \\ \searrow 4 \times 8 \end{array} \begin{array}{l} 1, 2, 4, 8, 16, \text{ and } 32 \end{array}$$

$$40 \begin{array}{l} \swarrow 1 \times 40 \\ 2 \times 20 \\ 4 \times 10 \\ \searrow 5 \times 8 \end{array} \begin{array}{l} 1, 2, 4, 5, 8, 10, 20, \text{ and } 40 \end{array}$$

The greatest common factor is 8.

List the factors of each number below. Then, list the common factors and the greatest common factor.

	Factors	Common Factors	Greatest Common Factor
1.	8 _____ 12 _____	_____	_____
2.	6 _____ 18 _____	_____	_____
3.	24 _____ 15 _____	_____	_____
4.	4 _____ 6 _____	_____	_____
5.	5 _____ 12 _____	_____	_____
6.	16 _____ 12 _____	_____	_____