

MATHEMATICS: CONCEPTS AND SKILLS, COURSE 1
CHAPTER 2, LESSON 2, EXTRA EXAMPLES

Extra Example 1 Finding Common Factors

Find all common factors of 12 and 16.

SOLUTION

Find all the factors of 12 and all the factors of 16.

Factors of 12

$$1 \times 12 = 12$$

$$2 \times 6 = 12$$

$$3 \times 4 = 12$$

Factors of 16

$$1 \times 16 = 16$$

$$2 \times 8 = 16$$

$$4 \times 4 = 16$$

List all the factors in order. Then find the factors that are common to each number.

Factors of 12: **1, 2, 3, 4, 6, 12**

Factors of 16: **1, 2, 4, 8, 16**

ANSWER ♦ The common factors are 1, 2, and 4.

Extra Example 2 Finding the Greatest Common Factor

Find the greatest common factor of 24 and 36.

SOLUTION

Find all the factors of 24 and all the factors of 36.

Factors of 24

$$1 \times 24 = 24$$

$$2 \times 12 = 24$$

$$3 \times 8 = 24$$

$$4 \times 6 = 24$$

Factors of 36

$$1 \times 36 = 36$$

$$2 \times 18 = 36$$

$$3 \times 12 = 36$$

$$4 \times 9 = 36$$

$$6 \times 6 = 36$$

List all the factors in order.

Factors of 24: **1, 2, 3, 4, 6, 8, 12, 24**

Factors of 36: **1, 2, 3, 4, 6, 9, 12, 18, 36**

List the factors that are common to each number.

Common factors of 24 and 36: **1, 2, 3, 4, 6, 12**

ANSWER ♦ The greatest common factor of 24 and 36 is 12.