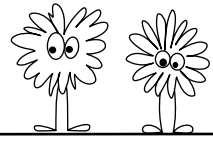# COMMON FACTORS

For each pair of numbers, find the greatest common factor.

24, 34

56, 35

80, 55

60, 42

90, 81

54, 84

Here is a cool way to find the greatest common factor of two numbers by writing each number as a product of prime facts. (Prime numbers can't be broken down into a product of smaller numbers.)

To get the greatest common factor of 150 and 400, we

1. Write each number as a product of primes.

$$150 = 2×3×5×5 \quad \text{and} \quad 400 = 2×2×2×2×5×5$$

2. Find all the prime factors that were in common.

$$150 = 2×3×5×5 \quad \text{and} \quad 400 = 2×2×2×2×5×5$$

3. Multiply out the prime factors that were in common to get the greatest common factor.

$$2×5×5 = 50 \text{ is the greatest common factor of 150 and 400.}$$

Let's try this trick to find the greatest common factor of 60 and 96.

1. $60 = 2×2×3×5 \quad \text{and} \quad 96 = 2×2×2×2×2×3$

2. The factors in common are 2×2×3.

3. The greatest common factor of 60 and 96 is 2×2×3 = 12.

For each pair of numbers, find the greatest common factor. Can you do it using the technique described above?

240, 75

112, 128