

GCF # 5

1. Use prime factorization to find all the prime factors for each of the following numbers. Each "level" should equal to the top number.

a)

$$\begin{array}{c} 12 \\ \swarrow \quad \searrow \\ 6 \quad \times \quad 2 \\ \swarrow \quad \searrow \quad \swarrow \quad \searrow \\ 2 \quad \times \quad 3 \quad \times \quad 2 \end{array}$$

b)

$$\begin{array}{c} 4 \\ \swarrow \quad \searrow \end{array}$$

c)

$$\begin{array}{c} 6 \\ \swarrow \quad \searrow \end{array}$$

d)

$$\begin{array}{c} 9 \\ \swarrow \quad \searrow \end{array}$$

e)

$$\begin{array}{c} 14 \\ \swarrow \quad \searrow \end{array}$$

f)

$$\begin{array}{c} 17 \\ \swarrow \quad \searrow \end{array}$$

g)

$$\begin{array}{c} 20 \\ \swarrow \quad \searrow \end{array}$$

h)

$$\begin{array}{c} 30 \\ \swarrow \quad \searrow \end{array}$$

i)

$$\begin{array}{c} 54 \\ \swarrow \quad \searrow \end{array}$$

j)

$$\begin{array}{c} 63 \\ \swarrow \quad \searrow \end{array}$$

k)

$$\begin{array}{c} 64 \\ \swarrow \quad \searrow \end{array}$$

l)

$$\begin{array}{c} 144 \\ \swarrow \quad \searrow \end{array}$$

2. Find the GCF (Greatest Common Factor) using prime factorization.

a)

8

4 x 2

2 x 2 x 2

12

6 x 2

2 x 3 x 2

2 x 2 = 4

What is the GCF of 8 and 12? 4

b)

10

2 x 5

6

2 x 3

What is the GCF of 10 and 6? 2

c)

9

3 x 3

36

2 x 2 x 3 x 3

What is the GCF of 9 and 36? 9

d)

18

2 x 3 x 3

42

2 x 3 x 7

What is the GCF of 18 and 42? 6

e)

75

3 x 5 x 5

70

2 x 5 x 7

What is the GCF of 75 and 70? 5

f)

81

3 x 3 x 3 x 3

27

3 x 3 x 3

What is the GCF of 81 and 27? 27