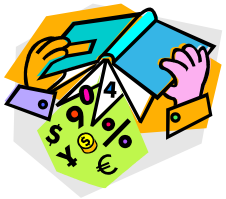


Name _____ Per _____

Using Prime Factorization to Find GCF & LCM

Prime Factorization: the factorization of a composite number into _____ factors.

Greatest Common Factor: the largest factor 2 or more numbers have in common.

Least Common Multiple: the smallest multiple common to two or more numbers.

Multiple: the product of two whole numbers.

Factor: a number that divides another number without a remainder.

You can use a _____ to find the prime factorization of any composite number.

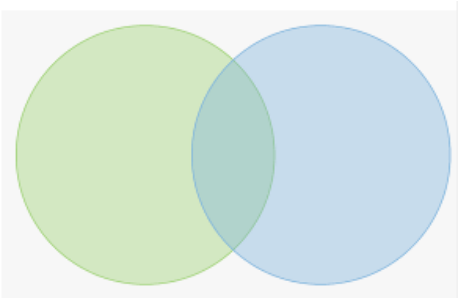
Let's Review:

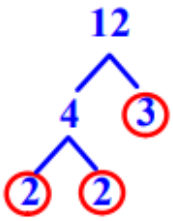
Use prime factorization to find the prime factors of each number. Write your answers in expanded form.

12 **32**

Great news! You can use Prime Factorization to find LCM (Least Common Multiple) and GCF (Greatest Common Factor).

Venn Diagram:

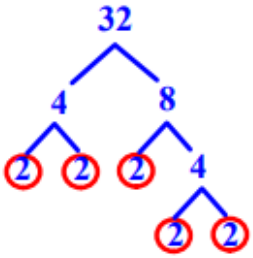


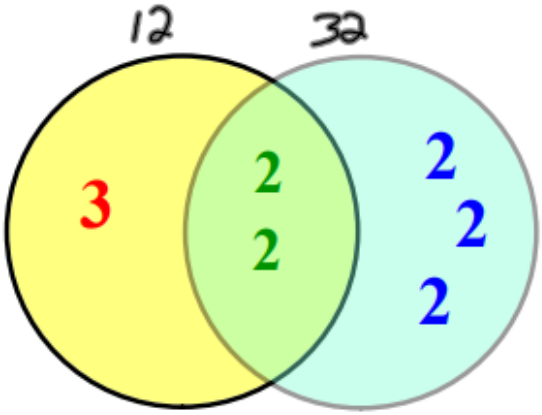


Complete the prime factorization of 12 and 32

$12 = 2 \times 2 \times 3$

$32 = 2 \times 2 \times 2 \times 2 \times 2$





To find LCM multiply the factors in all three sections of the Venn Diagram

$3 \times 2 \times 2 \times 2 \times 2 \times 2 = 96$ The LCM of 12 and 32 is 96

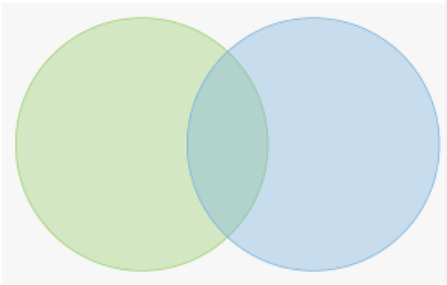
To find GCF multiply the factors in the center of the Venn Diagram

$2 \times 2 = 4$ The GCF of 12 and 32 is 4

YOU TRY:

1. Use prime factorization to find LCM and GCF of 18 and 27:

18 27

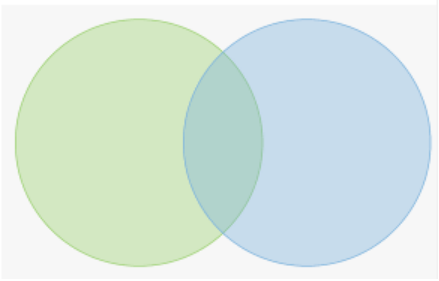


GCF: _____

LCM: _____

2. Use prime factorization to find the LCM & GCF of:

21 35

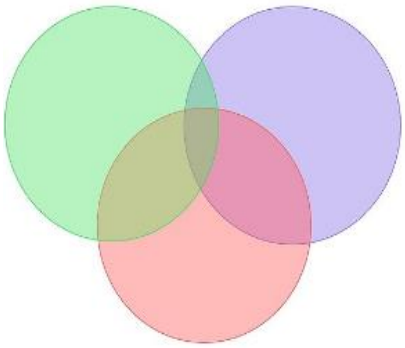


GCF: _____

LCM: _____

CHALLENGE:

3. Use prime factorization to find GCF and LCM of 4, 12 and 32:



GCF: _____

LCM: _____