

Content and Language Objective:

Students will be introduced to the Least Common Multiple and learn the processes that are related to the Least Common Multiple.

Warm - Up

1. Find the GCF for $24x^4 + 6x^3y^2 - 72x^2y$

$$6x^2 (4x^2 + 1xy^2 - 12y)$$

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So what is a "Multiple"?

We get a multiple of a number when we multiply it by another number. Such as multiplying by 1, 2, 3, 4, 5, etc, *but not zero.*

The multiples of 4 are: 4,8,12,16,20,24,28,32,36,40,44

The multiples of 5 are: 5,10,15,20,25,30,35,40,45,50

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So what is a "Common Multiple"?

So we have listed the first few multiples of 4 and 5: the common multiples are those that are found in both lists:

The multiples of 4 are: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44

The multiples of 5 are: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Notice that 20 and 40 appear in both lists?

So the common multiples of 4 and 5 are: 20, 40 (60, 80., etc.)

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So what is a "Least Common Multiple"?

It is simply the SMALLEST of the common multiples.

The multiples of 4 are: 4,8,12,16,20,24,28,32,36,40,44

The multiples of 5 are: 5,10,15,20,25,30,35,40,45,50

The least common multiple of 4 and 5 is 20.

FINDING THE LEAST COMMON MULTIPLE CAN BE USED FOR A SET OF 2 NUMBERS, 3 NUMBERS, 4 NUMBERS, AND SO ON.

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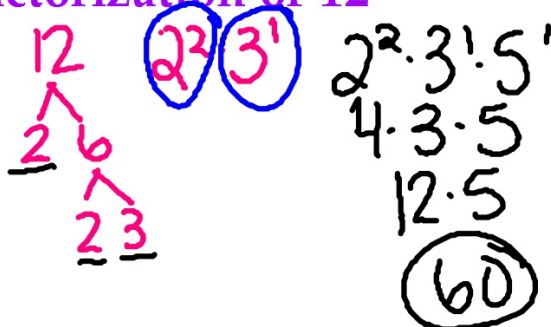
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PRIME FACTORIZATION METHOD FOR FINDING LCM

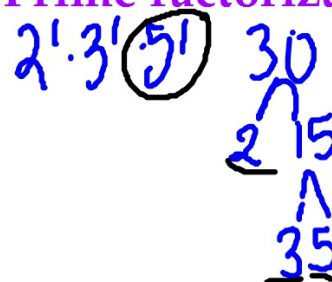
The LCM is calculated by finding the prime factorization of each number, then taking the product of the sets of primes with the highest value among the values.

Example: LCM of 12 and 30

Prime factorization of 12



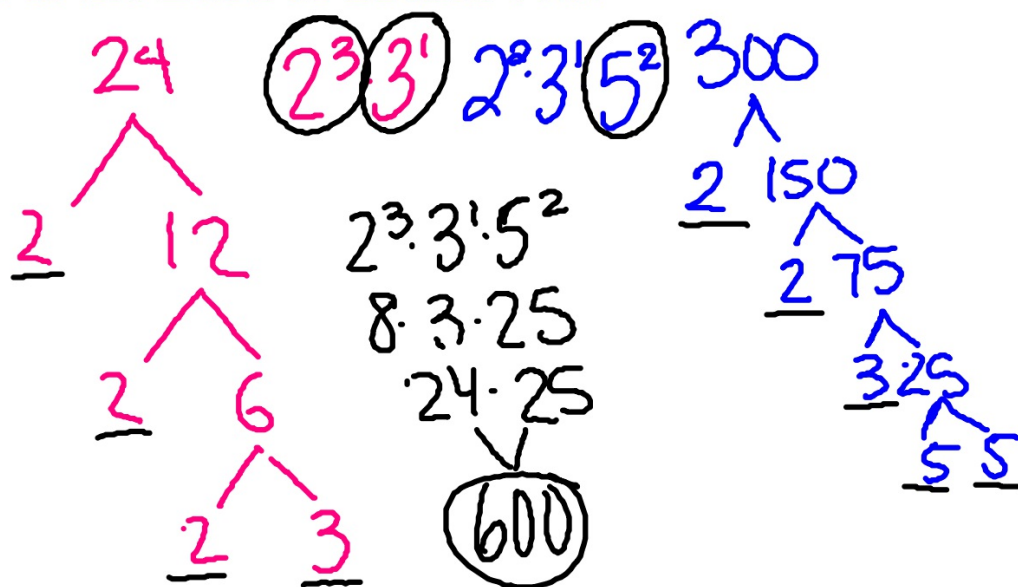
Prime factorization of 30



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What is the LCM of 24 and 300?



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List of prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.

