

Cake Method



The cake method is a useful procedure approach for finding Least Common Multiples and Greatest Common Factors.

Let's do an example:

Take: 64 , 70 , and 42 .

We guess and check to see if a likely factor or smaller number divides out each of the three original numbers.

We arrange the numbers as follows:

| | | | |
|----------|-----------|-----------|-----------|
| | 64 | 70 | 42 |
| 2 | 32 | 35 | 21 |

So 2 works, it divides out all the even numbers as follows.

| | | | |
|--|----|----|----|
| | 32 | 35 | 21 |
|--|----|----|----|

If you look closely no other number divides out the numbers in the last row.

2 is our Greatest Common Factor.

$2^6 * 3 * 5 * 7 = 64 * 15 * 7 = 6,720$. This is our Least Common Multiple.

Another example: **24** **12** **48**

| | | | |
|----------|-----------|-----------|-----------|
| | 24 | 12 | 48 |
| 2 | 12 | 6 | 24 |
| 2 | 6 | 3 | 12 |
| 3 | 2 | 1 | 4 |

2 1 2²

So GCF = 12 = 2*2*3 .

Our LCM = 2*2*2*2*3 = 48 .

Prime factors are like legos that multiply up to create composite numbers.