# Common Multiples and LCM

# What Are Multiples?

When listing the multiples of a number, you always start with the number itself:

Ex.: Multiples of 3

3: 3, 6, 9, 12, ...

# Common Multiples

Common multiples are found when comparing at least 2 different numbers.

Ex.: What are the first three common multiples of 3 and 4?

3: 3, 6, 9, **12**, 15, 18, 21, **24**, 27, 30, 33, **36**...

4: 4, 8, **12**, 16, 20, **24**, 28, 32, **36**…

The common multiples are the numbers that appear in BOTH lists: 12, 24, and 36

# Least Common Multiple (LCM)

The least common multiple is the first multiple that the numbers have in common.

In the previous example, the first or lowest common multiple for 3 and 4 was 12.

Therefore, the LCM for 3 and 4 = **12**

# How to Use the LCM to Determine Other Multiples

Once you have identified the LCM, all the other common ones will be multiples of the LCM itself:

Ex.: LCM for 3 and 4 = **12**

**The next common multiple will be equal to 12 x 2 = 24**

**Then 12 x 3 = 36**

***This shortcut can be used instead of writing long lists of multiples!**

# Please Note!

You can’t simply multiply the numbers by each other to get the LCM!

Ex.: <u>LCM for 15 and 25</u>

15: 15, 30, 45, 60, **75**

25: 25, 50, **75**

**But 15 x 25 = 375 (even though 375 IS a common multiple, it is NOT the LCM**