**Lesson 14 Notes: Least Common Multiple**

**Answer Key**

**Least Common Multiple**

When you list the multiples of two (or more) numbers, and find the **same value in both lists**, then that is a ***common multiple*** of those numbers.

**Method #1**

How do you find LCM?

1. List the multiples of each number until you get a match!

**Method #2**

Another way to find LCM:

1. Find the prime factorization of both numbers
2. Select the prime numbers that are common to both numbers, and also select each of the other prime factors.
3. Multiply the numbers together to find the LCM

**Method #3**

Another way to find LCM:

1. Find the Greatest Common Factor (GCF) of the numbers
2. Multiply the numbers together
3. Divide the product of the numbers by the GCF.

**Example:** Find the Least Common Multiple for the numbers. Show your work.

**Method #2: LCM(10,40)=2\*5\*2\*2=40**

**10=2\*5**

**40=2\*2\*2\*5**

**Method #3: LCM(10,40) = 40**

**GCF(10,40)=2\*5=10**

**10\*40=400**

**400/10=40**

LCM(10, 40)

**Method #1: LCM(10,40) = 40**

**10=10,20,30,40…**

**40=40,80,…**

**Directions:** Find the Least Common Multiple for the numbers. Show your work.

**Example A:** **Example B:**

LCM (12, 30) LCM= 60 LCM(22, 40) LCM= 440

**LCM(22, 40)**

**22=2\*11**

**40=2\*2\*2\*5**

**LCM(22,40)=2\*11\*2\*2\*5=440**

**LCM(12, 30)**

**12=2\*2\*3**

**30=2\*3\*5**

**LCM(12,30)=2\*3\*2\*5=60**

**Example C:** **Example D:**

LCM(20,33) LCM= 660 LCM(138, 84) LCM= 1932

**LCM(138, 84)**

**138=2\*3\*23**

**84=2\*2\*3\*7**

**LCM(138,84)=2\*3\*23\*2\*7=1932**

**LCM(20, 33)**

**20=2\*2\*5**

**33=3\*11**

**LCM(20,33)=2\*2\*5\*3\*11=660**