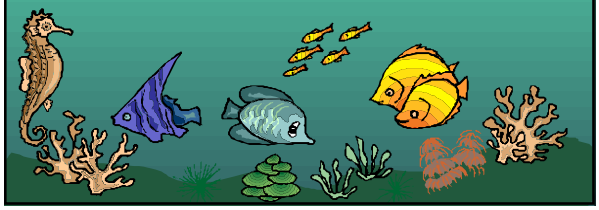
Least Common Multiples



12, 24, (36), 48, 60

18, (36), 54, 72, 90

The first number you see in both lists is 36.

The least common multiple of 12 and 18 is 36.

Least Common Multiple (LCM)

- The least common multiple is the smallest number that is common between two lists of multiples.

Example 2:
Find the LCM of 9 and 10

9, 18, 27, 36, 45, 54, 63, 72 | 81, (90), 99

10, 20, 30, 40, 50, 60, 70, 80 | (90), 100, 110

If you don't see a common multiple, make each list go further.

The LCM of 9 and 10 is 90

EXAMPLE:
Find the LCM of 12 and 18

The multiples of 12:	The multiples of 18:
•12 x 1 = 12	•18 x 1 = 18
•12 x 2 =24	•18 x 2 = 36
•12 x 3 = 36	•18 x 3 = 54
•12 x 4 = 48	•18 x 4 = 72
•12 x 5 =60	•18 x 5 = 90

Example 3:
Find the LCM of 4 and 12

4, 8, (12), 16

(12), 24, 36

Answer: 12

Example 4:
Find the LCM of 5 and 8

5, 10, 15, 20, 25, 30 | 35, (40)

8, 16, 24, 32, (40), 48

Answer: 40

12

1 x 12
2 x 6
3 x 4
~~4 x 3~~

Factors of 12:
1, 2, 3, 4, 6, 12

42

1 x 42
2 x 21
3 x 14
~~4 x ??~~
~~5 x ??~~
6 x 7
~~7 x 6~~

Factors of 42:
1, 2, 3, 6, 7, 14, 21, 42

Common Factors: 1, 2, 3, 6

Greatest Common Factor: 6

Example 5:
Find the LCM of 6 and 20

6, 12, 18, 24, 30, 36 | 42, 48, 54, (60)

20, 40, (60), 80, 100, 120

Answer: 60

What is the GCF of 18 and 27?

18

1 x 18
2 x 9
3 x 6
~~4 x ?~~
~~5 x ?~~
~~6 x 3~~

Factors of 18:
1, 2, 3, 6, 9, 18

Factors of 27:
1, 3, 9, 27

Common Factors:
1, 3, 9

GCF: 9

27

1 x 27
~~2 x ?~~
3 x 9
~~4 x ?~~
~~5 x ?~~
~~6 x ?~~
~~7 x ?~~
~~8 x ?~~
~~9 x 3~~

Greatest Common Factor (GCF)

- The greatest common factor is the largest factor that two numbers share.
- Let's find the GCF of 12 and 42. First, we need to make a list of factors for each number.

What is the GCF of 48 and 60?

48

1 x 48
2 x 24
3 x 16
4 x 12
6 x 8

60

1 x 60
2 x 30
3 x 20
4 x 15
5 x 12
6 x 10

Factors of 48:
1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Factors of 60:
1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

Common Factors: 1, 2, 3, 4, 6, 12

GCF: 12

Homework Time