Greatest Common Factor
Least Common Multiple

Name _____

GCF

Factor: numbers that are multiplied to give a product

EX: Find the GCF of 12 and 30

12	30
1, 12	1, 30
2, 6	2, 15
3, 4	3, 10
	5, 6

The largest factor in common is **6**

You Try

1. Find the GCF of 27 and 54.

2. Find the GCF of 28 and 84.

LCM

Multiple: SKIP COUNTING
The product of the number and another whole number

EX: Find the LCM of 12 and 30

12: 12, 24, 36, 48, 60, 72, ...

30: 30, 60, 90, 120, ...

The smallest multiple in common is **60**

You Try

1. Find the LCM of 8 and 10.

2. Find the LCM of 6 and 14.

1. Last summer, Karl went to the beach every 7 days. Antonia went to the beach every 3 days. How often did they see each other at the beach?

Last summer, Karl and Antonia saw each other at the beach every _____ days.

2. **String Lengths** You have two pieces of string. One is 8 cm long. The other is 20 cm long. You want to cut each piece of string into smaller pieces of equal length. Each length is to be a whole number of centimeters. List all the possible lengths of the shorter pieces. What is the greatest common length from these two lists?

3. **Winning Numbers** A group of people are waiting in line for a movie premiere. Every 15th person in line will receive a free movie ticket. Every 6th person will receive a gift card for $35. Which person is the first to win both prizes? If there are 200 people in line, how many people will receive both prizes?

The _____ th person in line is the first person to win both prizes.

If there are 200 people in line,_____ people will receive both prizes.

Hint: Skip Count to 200 and see how many common multiples there are.

Greatest Common Factor
Least Common Multiple

Name Key

GCF

Factor: numbers that are multiplied to give a product

EX: Find the GCF of 12 and 30

12	30
1, 12	1, 30
2, 6	2, 15
3, 4	3, 10
	5, 6

The largest factor in common is **6**

You Try

1. Find the GCF of 27 and 54.

27	54
1, 27	1, 54
3, 9	2, 27
	3, 18
	6, 9

GCF = 27

2. Find the GCF of 28 and 84.

28	84
1, 28	1, 84
2, 14	2, 42
4, 7	3, 28
	4, 21
	6, 14
	7, 12

GCF = 28

LCM

Multiple: SKIP COUNTING
The product of the number and another whole number

EX: Find the LCM of 12 and 30

12: 12, 24, 36, 48, 60, 72, ...

30: 30, 60, 90, 120, ...

The smallest multiple in common is **60**

You Try

1. Find the LCM of 8 and 10.

8: 8, 16, 24, 32, 40, 48...

10: 10, 20, 30, 40, 50...

LCM = 40

2. Find the LCM of 6 and 14.

6: 6, 12, 18, 24, 30, 36, 42, 48, 54, ...

14: 14, 28, 42, 56...

LCM = 42

1. Last summer, Karl went to the beach every 7 days. Antonia went to the beach every 3 days. How often did they see each other at the beach?

Multiples of 7 Multiples of 3

7: 7, 14, (21) 28, 35 ...

3: 3, 6, 9, 12, 15, 18, (21) 24 ...

Last summer, Karl and Antonia saw each other at the beach every 21 days.

2. **String Lengths** You have two pieces of string. One is 8 cm long. The other is 20 cm long. You want to cut each piece of string into smaller pieces of equal length. Each length is to be a whole number of centimeters. List all the possible lengths of the shorter pieces. What is the greatest common length from these two lists?

GCF

8	20
1, 8	1, 20
(2), (4)	(2), 10
	(4), 5

Greatest Common Length is 4 cm

3. **Winning Numbers** A group of people are waiting in line for a movie premiere. Every 15th person in line will receive a free movie ticket. Every 6th person will receive a gift card for $35. Which person is the first to win both prizes? If there are 200 people in line, how many people will receive both prizes?

15: 15, (30), 45, (60), 75, (90), 105, (120), 135, (150), 165, (180), 195, 210

6: 6, 12, 18, 24, (30), 36, 42, 48, 54, (60), 66, 72, 78, 84, (90), 96, 102, 108, 114, (120), 126, 132, 138, 144, (150), 156, 162, 168, 174, (180), 186, 192, 198, 204

The 30 th person in line is the first person to win both prizes.

If there are 200 people in line, 6 people will receive both prizes.

Hint: Skip Count to 200 and see how many common multiples there are.