

Solve for GCF/LCM Story Problems



Objective: I've learned how to use The Ladder to solve for Greatest Common Factor (GCF) and Least Common Multiple (LCM) of two or more numbers.

Now I'll apply what I know to solve GCF and LCM story problems.



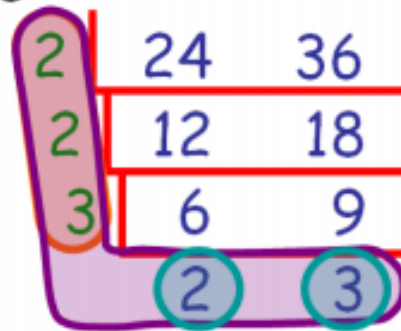
To solve factor and multiple story problems:

- 1) Read the problem and decide what the problem is asking.
- 2) Use your math reasoning and look at the GCF and LCM key word chart to help you determine if you are solving for a common factor or a common multiple.
- 3) Use The Ladder to help you determine your answer.
- 4) Ask: Does my answer make sense?



Let's Use the Ladder for LCM, GCF and Simplifying Fractions!

- ① **WRITE** the two numbers on one line.
 - ② **DRAW THE L SHAPE**
 - ③ **DIVIDE** out common prime numbers starting with the smallest
 - ④ **LCM** makes an L: $LCM = 2 \cdot 2 \cdot 3 \cdot 2 \cdot 3 = 72$
- GCF** is down the left side: $GCF = 2 \cdot 2 \cdot 3 = 12$
- Simplified fraction** is on the bottom $\frac{24}{36} = \frac{2}{3}$



If it is a GCF Problem...

- ✓ Are we looking for the greatest, largest, or maximum?
- ✓ Do we have to split things into smaller sections, groups, or teams?
- ✓ Are we trying to distribute something equally?
- ✓ Are we trying to arrange something into rows, teams, or groups?

If it is an LCM Problem...

- ✓ Are we looking for the smallest, least, first, or minimum?
- ✓ Are we trying to figure out when an event will happen **next**?
- ✓ Are we trying to figure out when an event will happen **again**, or **repeat**?
- ✓ Are we trying to figure out when both will be equal?

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Example #1:

1. There are 14 girls and 21 boys in Mr. Nickerson's gym class. To play a certain game, the students must form teams. The teams must have an equal number of boys and girls on it. What is the greatest number of teams Mr. Nickerson can make if every student is on a team? How many boys and girls will be on each team?



Key Words/Ideas:

Are you solving for a factor or multiple?

WHY?

Use your ladder to solve:

Ask: Does my answer make sense?

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- ✓ Are we looking for the greatest, largest, or maximum?
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If it is an LCM Problem...

- ✓ Are we looking for the smallest, least, first, or minimum?
- ✓ Are we trying to figure out when an event will happen **next**?
- ✓ Are we trying to figure out when an event will happen **again**, or **repeat**?
- ✓ Are we trying to figure out when both will be equal?

Example #2:

2. Two faucets are dripping. One drips every 4 seconds and the other drips every 22 seconds. If a drop of water falls from both faucets at the same time, how many seconds will it be before you see the faucets drip at the same time?



Key Words /Ideas:

Are you solving for a factor or multiple?

WHY?

Use your ladder to solve:

Ask: Does my answer make sense?



YOU TRY:

3. Blake's school cafeteria serves tacos every sixth day and cheeseburgers every tenth day. If tacos and cheeseburgers are both on today's menu, how many days will it be before they are both on the menu again?

Are you solving for a factor or multiple?

WHY?

Use your ladder to solve:

Ask: Does my answer make sense?

4. Sara, at Lovell's, has 16 red flowers and 24 yellow flowers. She wants to make bouquets with the same number of each color flower in each bouquet. What is the greatest number of bouquets she can make?

Are you solving for a factor or multiple?

WHY?

Use your ladder to solve:

Ask: Does my answer make sense?