MATHCOUNTS®
Least Common Multiple

Warm-Up!

Try these problems before watching the lesson.

1. What is the smallest two-digit number that is a multiple of 2 and 3?

2. What is the smallest number that is a multiple of 2, 3 and 5?

3. What is the smallest perfect square that is divisible by both 2 and 3?

4. How many positive integers less than 100 are multiples of 2, 3 and 5?

The Problems

Take a look at the following problems and follow along as they are explained in the video.

5. What is the least common multiple of 84 and 63?

6. Mrs. Chandler has a class of 20 kids and she wants to give each student at least one pencil to use at MATHCOUNTS practices. Pencils are sold in packages of 12. If Mrs. Chandler wants to give each student the same number of pencils with no extra leftover, what is the smallest number of packages of pencils she could buy?

7. George Washington High School's marching band members can evenly arrange themselves in rows of 8, 9, 10 or 12. What is the least number of students that could be in the marching band?

Piece It Together

Use the skills you practiced in the warm-up and strategies from the video to solve the following problems.

8. What is the least common multiple of 48 and 72?

9. Let LCM (*a*, *b*) be the abbreviation for the least common multiple of *a* and *b*. What is LCM (LCM (8, 14), LCM (7, 12))?

10. What is the least positive integer divisible by the four smallest odd, positive integer?

11. What is the smallest perfect square that is divisible by both 4 and 6?

12. Buns are sold in packs of 12. Hamburger patties are sold in packages of 8 and veggie burger patties are sold in packages of 10. At a picnic, both hamburgers and veggie burger sandwiches are served. There is a bun for each patty and no extra of buns, hamburgers or veggie burgers. What is the least number of sandwiches that could be served at the picnic?

13. Johnny had a full bag of apple seeds. He found that if he repeatedly removed the apple seeds 2 at a time, 1 seed remained in the bag at the end. Similarly, if he repeatedly removed the seeds 3, 4, 5 or 6 at a time from the full bag, 1 seed remained in the bag at the end. What is the least number of seeds he could have in the full bag?

Optional Extension

To extend your understanding and have a little fun with math, try the following activities.

How many positive integers less than 101 are multiples of 3, 4 or 7?