

Least Common Multiple

There are different ways to find the least common multiple (LCM) of two numbers. Here are two ways of finding the LCM of 4 and 5:

List Multiples

Step 1: List multiples of each number.

4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48...

5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50...

Step 2: Check the multiples the numbers have in common.

4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48...

5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50...

Step 3: Determine which of the common multiples is the least.

20 and 40 are both common multiples, but 20 is the least.

The LCM of 4 and 5 is 20.

Use Prime Factors

Step 1: List the prime factors of each number.

4: 2×2

5: 5

Step 2: Circle the greatest number of times each different factor appears.

4: 2×2

5: 5

Step 3: Find the product of the factors you circled.

$2 \times 2 \times 5 = 20$

The LCM of 4 and 5 is 20.

Find the LCM of each set of numbers.

1. 6, 7 _____

2. 4, 5 _____

3. 10, 15 _____

4. 2, 5, 10 _____

5. 6, 21 _____

6. 8, 10 _____

7. 12, 20 _____

8. 5, 10, 25 _____

9. 7, 8 _____

10. **Number Sense** If you know the LCM of 4 and 5, how could you find the LCM of 40 and 50?

11. Peter says the least common multiple of 4, 6, and 12 is 24. Do you agree or disagree? Explain.

Least Common Multiple

Find the LCM of each set of numbers.

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|------------------|-----------------|-------------------|
| 1. 15, 20 _____ | 2. 4, 50 _____ | 3. 8, 12 _____ |
| 4. 14, 42 _____ | 5. 21, 30 _____ | 6. 3, 7, 10 _____ |
| 7. 6, 7, 8 _____ | 8. 16, 20 _____ | 9. 12, 16 _____ |

10. At what times of the day between 10:00 A.M. and 5:00 P.M. do the chemistry presentation and the recycling presentation start at the same time?

Science Museum
— Show Schedule —
Chemistry — Every 30 minutes
Electricity — Every 20 minutes
Recycling — Every 40 minutes
Fossils — Every 45 minutes
The first showing for all shows is at 10:00 A.M.

11. The museum does shows in schools every Monday and shows in public libraries every fifth day (on both weekdays and weekends). If the museum did both a school show and a library show on Monday, how many days will it be until it does both shows on the same day again?

Test Prep

12. Which of the following pairs of numbers is correctly listed with its LCM?

- | | |
|--------------------|--------------------|
| A. 5, 15; LCM: 30 | B. 20, 30; LCM: 60 |
| C. 24, 36; LCM: 12 | D. 7, 9; LCM: 21 |

13. **Writing in Math** What method would you use to find the LCM of a group of four numbers? Explain and give an example.
