MATHEMATICS · GRADES 4-6

Least common multiple (LCM)

Difficulty level: Intermediate

Mathematics: Grades 4-6

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you find the smallest number two numbers both fit into, like working out when two buses on different schedules will leave at the same time. The smallest common multiple is the first moment two repeating patterns line up again, and that is a question that comes up all over real life. You use it to line up bus timetables, to work out when two machines will need servicing on the same day, or to add fractions that do not share a denominator.



Rule

The least common multiple is the smallest number that is a multiple of both numbers.

List the multiples of each number in turn, and the first number on both lists is the LCM.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Find the LCM of 4 and 6.

SOLUTION

This is a least-common-multiple question, and the one rule to remember is: list the multiples of each number and take the first one that appears on both lists.

Multiples of 4: 4, 8, 12, 16. Multiples of 6: 6, 12, 18.

The first number on both lists is 12, so the LCM of 4 and 6 is 12.

EXAMPLE 2

Q A red bus comes every 3 minutes and a blue bus every 5 minutes. They leave together now. In how many minutes will they leave together again?

SOLUTION

This is a when-do-they-meet-again question, and it is really an LCM question in disguise: the answer is the first time that is a multiple of both 3 and 5.

Multiples of 3: 3, 6, 9, 12, 15. Multiples of 5: 5, 10, 15.

The first number on both lists is 15, so the buses leave together again in 15 minutes.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1. Find the LCM of 8 and 14.

Understand It with Pulse | Flag a mistake

2. A green bus comes every 4 minutes and a yellow bus every 6 minutes. They leave together now. In how many minutes will they leave together again?

Understand It with Pulse | Flag a mistake

3. What is the smallest number that is a multiple of both 6 and 8?

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

4 Hot dogs are sold in packs of 10 and buns in packs of 8. What is the smallest equal number of hot dogs and buns you can buy?

Understand It with Pulse | Flag a mistake

5 Find the LCM of:
4
6
10

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6

The LCM of 9 and 12 is 36. Which of these numbers is NOT a common multiple of 9 and 12?

- A 36
- B 72
- C 108
- D 54

Understand It with Pulse | Flag a mistake

7

True or false: the LCM of two prime numbers is always their product.

- A True
- B False

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

8 Rectangular tiles are 9 cm by 6 cm. What is the smallest square you can make from whole tiles?

Understand It with Pulse | Flag a mistake

9 What is the second smallest common multiple of 10 and 15?

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

10 **Why do you need the LCM of 4 and 6 before you can add $\frac{1}{4} + \frac{1}{6}$?**

A To make the numerators the same

B To give both fractions the same denominator, 12, before adding

C To make the fractions bigger

D To change $\frac{1}{4}$ into $\frac{1}{6}$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. 56

2. 12 minutes

3. 24

4. 40

5. 60

6. 54

7. True

8. 18 cm

9. 60

10. To give both fractions the same denominator, 12, before adding

© 2026 Brett Robbins. All Rights Reserved.