

Lowest common multiples

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Date: _____

Lowest common multiples

Sit down with a
pen and paper.



Lowest common multiple: The first time two or more numbers meet in their times table.

Examples: What is the LCM of **9** and **12**?

List the multiples of both numbers.

9: 9, 18, 27, 36, 45, 54, 63...

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

First time they meet is 36.

LCM: 36

Questions

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- 1 List the first six multiples of 8.
- 2 List the first six multiples of 10.
- 3 What is the lowest common multiple?
- 4 What would be the next 5 common multiples of 8 and 10?
- 5 Will 8 and 10 have a common multiple of 2010

1 List the first six multiples of 8.

8, 16, 24, 32, 40, 48

2 List the first six multiples of 10.

10, 20, 30, 40, 50, 60

3 What is the lowest common multiple?

40

4 What would be the next 5 common multiples of 8 and 10?

80, 120, 160, 200, 240

5 Will 8 and 10 have a common multiple of 2010

The common multiples are the multiples of 40.
2000 is a multiple of 40 so 2010 is not.

Questions

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- 1 List the first eight multiples of 7.
- 2 List the first eight multiples of 6.
- 3 What is the lowest common multiple?
- 4 What would be the LCM of 70 and 60?
- 5 Explain why 840 is a common multiple of 6 and 7.

1 List the first eight multiples of 7.

7, 14, 21, 28, 35, 42, 49, 56

2 List the first eight multiples of 6.

6, 12, 18, 24, 30, 36, 42, 48

3 What is the lowest common multiple?

42

4 What would be the LCM of 70 and 60?

420

5 Explain why 840 is a common multiple of 6 and 7.

Common multiples meet every 42.

$42 \times 2 = 84$ therefore $42 \times 20 = 840$

Numbers

or

Numbers and problem solving

Test your understanding

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- 1 What is the LCM of 10 and 15?
- 2 What is the LCM of 8 and 12?
- 3 What is the LCM of 18 and 9?
- 4 What is the LCM of 100 and 30?
- 5 What is the LCM of 10, 20 and 25?
- 6 What is the LCM of 22 and 25
- 7 What is the LCM of 80 and 120?

Answers

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- 1 What is the LCM of 10 and 15? **30**
- 2 What is the LCM of 8 and 12? **24**
- 3 What is the LCM of 18 and 9? **18**
- 4 What is the LCM of 100 and 30? **300**
- 5 What is the LCM of 10, 20 and 25? **100**
- 6 What is the LCM of 22 and 25 **550**
- 7 What is the LCM of 80 and 120? **See Q2, 240**

Test your understanding

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1 What is the LCM of 55 and 20?

2 What is the LCM of 12 and 16?

3 A red light flashes every 6 seconds.
A yellow light flashes every 4 seconds.
They both flash at the same time.
After how many seconds will they next both flash at the same time?

4 Trains leave Bristol
to Cardiff every **15 minutes**
to London every **21 minutes**
A train to Cardiff and a train to London both leave Bristol at 11am.
At what time will a train to Cardiff and a train to London next leave Bristol at the same time?

1 What is the LCM of 55 and 20? **220**

2 What is the LCM of 12 and 16? **48**

3 A red light flashes every 6 seconds.
A yellow light flashes every 4 seconds. **12 seconds**
They both flash at the same time.
After how many seconds will they next both flash at the same time?

4 Trains leave Bristol **105 minutes = 1 hour 45 minutes**
to Cardiff every **15 minutes** **12:45pm**
to London every **21 minutes**
A train to Cardiff and a train to London both leave Bristol at 11am.
At what time will a train to Cardiff and a train to London next leave
Bristol at the same time?

Test your understanding



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5

A red light flashes every **3 seconds**.

A yellow light flashes every **8 seconds**.

A green light flashes every **11 seconds**.

They all flash at the same time.

After how many seconds will they next all flash at the same time?

6

Sara is thinking of an integer that is divisible by both 12 and 2.

What is the smallest number she could be thinking of?

7

Boxes that are 12 inches tall are being stacked next to boxes that are 18 inches tall. What is the shortest height at which the two stacks will be the same height? **Give your answer in feet.**

8

The HCF of two numbers is 3. The LCM is 45.

What could the numbers be?

Answers

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5 A red light flashes every **3 seconds**.

A yellow light flashes every **8 seconds**.

A green light flashes every **11 seconds**.

They all flash at the same time.

After how many seconds will they next all flash at the same time?

264 seconds

6 Sara is thinking of an integer that is divisible by both 12 and 2.

What is the smallest number she could be thinking of?

12

7 Boxes that are 12 inches tall are being stacked next to boxes that are 18 inches tall. What is the shortest height at which the two stacks will be the same height? **Give your answer in feet.**

126 inches = 10 feet 6 inches

8 The HCF of two numbers is 3. The LCM is 45.

What could the numbers be?

3 and 45

9 and 15

End of the lesson

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Well done for completing the lesson.



Reflections

A large, empty rounded rectangular box with a black border, intended for students to write their reflections.