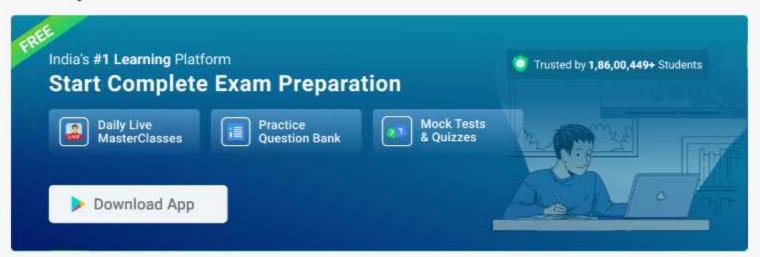
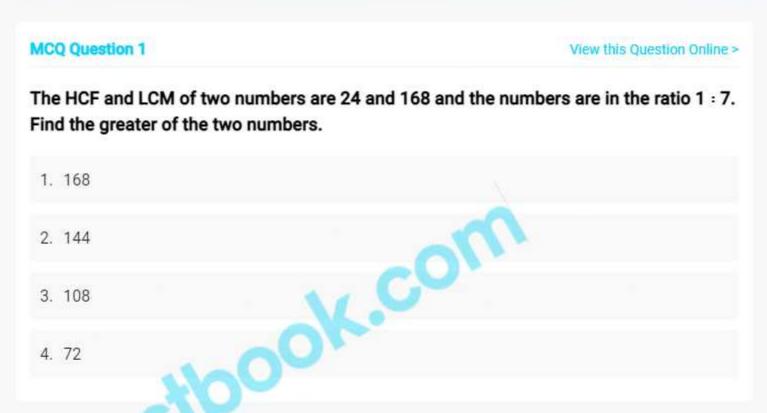
# **LCM Questions**





Answer (Detailed Solution Below)

Option 1:168



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### LCM MCQ Question 1 Detailed Solution

### Given:

HCF = 24

LCM = 168

Ratio of numbers = 1:7.

### Formula:

Product of numbers = LCM × HCF

### Calculation:

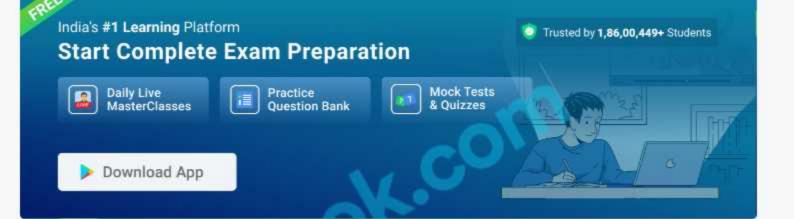
Let numbers be x and 7x.

$$x \times 7x = 24 \times 168$$

$$\Rightarrow$$
 x<sup>2</sup> = 24 × 24

$$\Rightarrow x = 24$$

 $\therefore$  Larger number =  $7x = 24 \times 7 = 168$ .



### MCQ Question 2

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What least number must be subtracted from 2963 so that the resulting number when divided by 9, 10 and 15, the remainder in each case is 5?

- 1. 41
- 2. 78
- 3. 82
- 4. None of the above

## Answer (Detailed Solution Below)

Option 2:78

## LCM MCQ Question 2 Detailed Solution

Given:

Number = 2963

Concept used:

Lowest Common Multiple

Calculation:

LCM of (9, 10, 15) = 3 × 3 × 10

⇒ 90

2963/90, remainder = 83

.. The least number that must be subtracted from 2963 which gives remainder 5 when divided by 9, 10 and 15:

$$\Rightarrow$$
 83 - 5 = 78



### MCQ Question 3

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Find the sum of the numbers between 400 and 600 such that when they are divided by 6, 12 and 16, there will be no remainder.

1. 2620

2. 2016

3. 2026

4. 2610

### Answer (Detailed Solution Below)

Option 2: 2016

### LCM MCQ Question 3 Detailed Solution

### Given:

We need to find the sum of numbers in the range of 400 - 600 such that they are divisible by each 6, 12 and 16.

### Concept:

LCM (Lowest Common Multiple)

### Calculation:

LCM (6, 12, 16) = 48

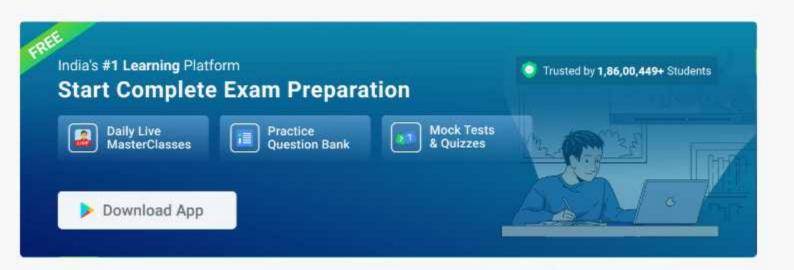
The required numbers will be in the form of 48k, where k is a natural number.

For 
$$k = 9$$
,  $48k = 48 \times 9 = 432$ 

For 
$$k = 11$$
,  $48k = 48 \times 11 = 528$ 

For 
$$k = 12$$
.  $48k = 48 \times 12 = 576$ 

: The sum of these 4 numbers that is, 432, 480, 528, and 576 is 2016.



### MCQ Question 4

View this Question Online >

# What is the largest possible 5-digit number which is exactly divisible by 30, 45 and 54?

- 1. 99990
- 2. 99840
- 3. 99800
- 4. 99900

### Answer (Detailed Solution Below)

Option 4: 99900

### LCM MCQ Question 4 Detailed Solution

### GIVEN:

Largest possible 5-digit number which is exactly divisible by 30, 45 and 54.

### CONCEPT:

LCM: denotes the least common factor or multiple of any two or more given integers.

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### CALCULATION:

$$30 = 2 \times 3 \times 5$$

$$45 = 3 \times 3 \times 5$$

$$54 = 2 \times 3 \times 3 \times 3$$

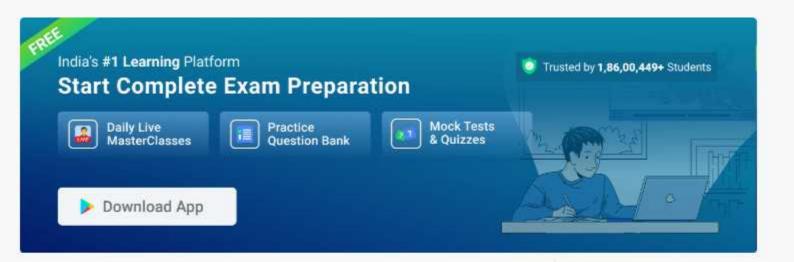
LCM of (30, 45 and 54) = 
$$2 \times 3 \times 3 \times 3 \times 5 = 270$$

Largest number of 5 digit = 99999

Hence,

Required number = 99999 - Remainder of (99999 ÷ 270)

- = 99999 99
- = 99900



### MCQ Question 5

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Two numbers are in the ratio 3: 4, their LCM is 84. Find the greater number of the two numbers.

- 1. 21
- 2. 24
- 3. 28

### Answer (Detailed Solution Below)

Option 3:28

### LCM MCQ Question 5 Detailed Solution

### Given:

Ratio of two numbers = 3:4

LCM of these two numbers = 84

### Calculation:

Let the number be 3x and 4x

LCM of 3x and 4x = 12x

According to the question,

$$12x = 84$$

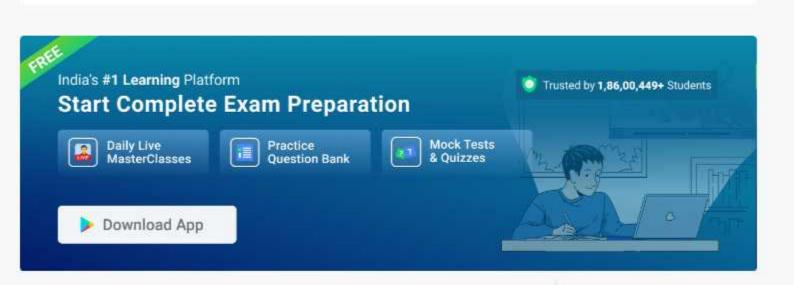
$$\Rightarrow x = 7$$

Greater number = 4x

 $\Rightarrow 4 \times 7$ 

⇒ 28

.. The greater number of two numbers is 28



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MCQ Question 6

liew this Question Online >

If the ratio of the number is 3:5 and their HCF is 25. Then, what is the LCM of these two

- 1. 275
- 2. 225
- 3. 425
- 4. 375

### Answer (Detailed Solution Below)

Option 4:375

### LCM MCQ Question 6 Detailed Solution

### GIVEN:

The ratio of two numbers = 3:5

HCF of two numbers = 25

### CONCEPT:

Product of two numbers = LCM × HCF

### CALCULATION:

31000/A.co Suppose two numbers are 3x and 5x, respectively.

HCF = 25

:. First number = 3x = 3(25) = 75

Second number = 5x = 5(25) = 125

⇒ 75 × 125 = 25 × LCM

⇒ LCM = 3 × 125

⇒ LCM = 375



### MCQ Question 7

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Four bells ringing together and ring at an interval of 12 sec, 15 sec, 20 sec, and 30 sec respectively. How many times will they ring together in 8 hours?

- 1. 481
- 480
- 4. 483

### Answer (Detailed Solution Below)

Option 1:481

### LCM MCQ Question 7 Detailed Solution

### Given:

Siloook.com Four bells ringing timing is 12 sec, 15 sec, 20 sec, 30 sec

### Calculation:

Four bells ringing timing is 12 sec, 15 sec, 20 sec, 30 sec

Now we have to take LCM of time interval

⇒ LCM of (12, 15, 20, 30) = 60

Total seconds in 8 hours = 8 × 3600 = 28800

Number of times bell rings = 28800/60

⇒ Number of times bell rings = 480

If four bells ring together in starting

 $\Rightarrow$  480 + 1

.. The bell ringing 481 times in 8 hours.



### Mistake Points

The bells start tolling together, the first toll also needs to be counted, that is the number of times of tolling since the first time.



### MCQ Question 8

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The size of an iron block is 15 cm × 10 cm × 20 cm. How many such blocks will be needed for the construction of a solid iron cube of minimum size?

1. 90

2. 72

3. 120

4. 60

### Answer (Detailed Solution Below)

Option 2:72

### LCM MCQ Question 8 Detailed Solution

### GIVEN:

The size of an iron block is  $15 \text{ cm} \times 10 \text{ cm} \times 20 \text{ cm}$ .

### CONCEPT:

LCM: denotes the least common factor or multiple of any two or more given integers.

### CALCULATION:

Side of smallest cube = LCM (15, 10, 20) = 60 cm

 $\therefore$  Required number of blocks =  $(60 \times 60 \times 60)/(15 \times 10 \times 20) = 72$ 



# MCQ Question 9 If the ratio of two numbers is in the ratio 4 : 9 and their LCM is 720, then find the sum of both the numbers? 1. 260 2. 240 3. 180 4. 390

### Answer (Detailed Solution Below)

Option 1:260

### LCM MCQ Question 9 Detailed Solution

### Given:

Ratio of numbers = 4:9

LCM of the numbers = 720

### Calculation:

.. Prime factors of 4a = a x 2 x 2

Prime factors of  $9a = a \times 3 \times 3$ 

:. LCM of 4a and 9a = a × 2 × 2 × 3 × 3

 $=36 \times a$ 

:: LCM of 4a and 9a = 720



$$\Rightarrow$$
 a = 720/36

$$9a = 9 \times 20 = 180$$

$$= 260$$



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### MCQ Question 10

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The LCM and HCF of two numbers are 108 and 18 respectively. If one of the numbers is 36, find the other number.

1. 22

2. 54

3. 42

4. 12

### Answer (Detailed Solution Below)

Option 2:54

# concept Used: (a and b) = HCF of (a, b) × LCM of (a, b) Calculation: Let the other number be x. $6 \times x = 108 \times \frac{10}{2}$

$$36 \times x = 108 \times 18$$

$$\Rightarrow$$
 x = 54

.. The other number is 54