Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

LCM - LEAST COMMON MULTIPLE ; HCF - HIGHEST COMMON FACTOR

CONCEPT 1 – BASIC PROBLEMS

1) Find the LCM of 24, 36, and 72.
   a) 62
   b) 52
   c) 72
   d) 42

ANS: c) 72

Explanation:

METHOD 1: Prime factorisation

STEP 1: Let's first prime factorise every given number.

24 —> 6*4 = 2*3*2*2 = 2^3*3.

36 —> 6*6 = 2*3*2*3 = 2^2*3^2.

72 —> 12*6 = 2*3*2*2*3 = 2^3*3^2.

STEP 2: Write all the factors with their highest power —> 2^3*3^2.

LCM = 2^3*3^2 = 8*9 = **72.**

METHOD 2:

STEP 1: Check whether the largest number is divisible by all other numbers.

STEP 2: If YES, the Largest number will be the LCM.

STEP 3: If NO, try multiples of the largest number until it is divisible by every other number.

$\frac{72}{24}$ ✅ $\frac{72}{36}$ ✅

Therefore, 72 will be LCM.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

METHOD 3:

STEP 1: Take out the common factors of all the given numbers, even if it is between 2 numbers.

24,36,72 —> 12 (2, 3, 6) —> 24 (1,3,3) —> 72(1,1,1)

STEP 2: LCM = 72.

METHOD 4: Option checking - (Effective Method)

Take any number, try to split it into numbers so that we can check divisibility of those numbers easily.

24 = 8*3

Check options which can be divided by 3. opt c) & d) will be divisible by 3.

Check options which can be divided by 8. opt c) will be divisible by 8.

Therefore, opt c) 72 will be the LCM.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

2) Find the LCM of 18, 24, and 60.
   a) 360
   b) 240
   c) 720
   d) 180

ANS: a) 360

Explanation:

METHOD 1: Prime factorisation

STEP 1: Let's first prime factorise every given number.

18 —> 9*2 = 3*3*2 = 3^2*2.

24 —> 6*4 = 2*3*2*2 = 2^3*3.

60 —> 10*6 = 2*5*2*3 = 2^2*5*3.

STEP 2: Write all the factors with their highest power —> 2^3*5*3^2.

LCM = 2^3*5*9 = 8*5*9 = 360.

METHOD 2:

STEP 1: Check whether the largest number is divisible by all other numbers.

STEP 2: If YES, Largest number will be the LCM.

STEP 3: If NO, try multiples of largest number until it is divisible by every other number.

1. $\frac{60}{18}$ X $\frac{60}{24}$ X 2. $\frac{120}{18}$ X $\frac{120}{24}$ ✓

3. $\frac{240}{18}$ X $\frac{240}{24}$ ✓ 4. $\frac{360}{18}$ ✓ $\frac{360}{24}$ ✓

Therefore, 360 will be LCM.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

METHOD 3:

STEP 1: Take out the common factors of all the given numbers even if it is between 2 numbers.

18,24,60 —> 6 (3, 4, 10) —> 12 (3,2,5) —> 12*3*2*5

STEP 2: LCM = 360.

METHOD 4: Option checking - (Effective Method)

Take any number, try to split it into numbers so that we can check divisibility of those numbers easily.

18 = 6*3

Check options which can be divided by 3. Every option will be divisible by 3.

18 = 9*2

Check options which can be divided by 9. opt a), opt c), opt d) will be divisible by 3.

24 = 8*3

Check options which can be divided by 8.opt a), opt c) will be divisible by 8.

LCM should be the **least** common multiple. Therefore 360 will be the answer.

Therefore, opt c) 360 will be the LCM.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

3) Find the HCF of 24, 36, and 72.
   a) 32
   b) 12
   c) 72
   d) 24

ANS: b) 12

Explanation:

METHOD 1: Prime factorisation

STEP 1: Let's first prime factorise every given number.

24 —> 6*4 = 2*3*2*2 = 2^3*3.

36 —> 6*6 = 2*3*2*3 = 2^2*3^2.

72 —> 12*6 = 2*3*2*2*3 = 2^3*3^2.

STEP 2: Write Common factors with their least power —> 2^2*3.

HCF = 2^2*3 = 4*3 = 12.

METHOD 2:

STEP 1: Check whether the smallest number divides all other numbers.

STEP 2: If YES, the Smallest number will be the HCF.

STEP 3: If NO, try the Factors of the smallest number until it is dividing every other number.

1. $\frac{36}{24}$ X $\frac{72}{24}$ ✅ 2. $\frac{36}{12}$ ✅ $\frac{72}{12}$ ✅

Therefore, 12 will be the HCF.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

METHOD 3:

STEP 1: Take out the common factors of all the given numbers.

24,36,72 —> 12 (2, 3, 6)

STEP 2: HCF = 12.

METHOD 4: Option checking - (Effective Method)

Check whether every number is divisible by taking one by one option.

opt a) 24 will not be divisible by 32.

opt b) 24, 36, 72 will be divisible by 12.

opt c) 24 will not be divisible by 72.

opt d) 36 will not be divisible by 24.

Therefore, opt b) 12 will be the HCF.

4) Find the HCF of 18, 24, and 60.
   a) 6
   b) 4
   c) 12
   d) 5

ANS: a) 6

Explanation:

METHOD: Option checking - (Effective Method)

Check whether every number is divisible by taking one by one option.

opt a) 18, 24, 60 will be divisible by 6.

opt b) 18 will not be divisible by 4.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

opt c) 18 will not be divisible by 12.

opt d) 18, 24, 60 will not be divisible by 5.

HCF should be the **Highest Common Factor** . Therefore 6 will be the answer.

Therefore, opt a) 6 will be the HCF.

CONCEPT 2 – LCM, HCF OF FRACTIONS

$$LCM = \frac{LCM\ of\ Numerator}{HCF\ of\ Denominator} \quad HCF = \frac{HCF\ of\ Numerator}{LCM\ of\ Denominator}$$

CONCEPT 3 – LCM*HCF = PRODUCT OF 2 NUMBERS

5) The LCM of two numbers is 120, their GCD or (HCF) is 10 and one of the numbers is 30. Find the other number.
   a) 30
   b) 10
   c) 120
   d) 40

ANS: d) 40

Explanation:

LCM*HCF = PRODUCT OF 2 NUMBERS

$120 * 10 = 30 * N_2$

$N_2 = 40.$

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

6) The LCM of two numbers is 64699, their GCD or (HCF) is 97, and one of the numbers is 2231. Find the other.
   a) 2187
   b) 2813
   c) 2831
   d) 2381

ANS: b) 2813

Explanation:

LCM*HCF = PRODUCT OF 2 NUMBERS

$$64699 * 97 = 2231 * N_2$$

Check the unit digit to find the answer if the product is too big.

If the unit digit fails, try the last two-digit multiplication.

UNIT DIGIT:

9*7 = 63 ; 1*3 = 3.

Therefore, opt b) is the answer.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

7) The HCF of two numbers is 1/5th of their LCM. If the product of the two numbers is 720, the HCF is _____.
   a) 20
   b) 12
   c) 15
   d) 18

ANS: b) 12

Explanation:

HCF =1/5 LCM; LCM = 5 HCF

Product of 2 numbers = 720

Product of 2 numbers = HCF×LCM

720 = HCF×5HCF

HCF = x

144 = x^2

x = 12

Hence HCF = 12

8) What is the greatest number that will divide 29,60 and 103 and will leave as remainder 5,12 and 7, respectively?
   a) 24
   b) 16
   c) 12
   d) 14

ANS: a) 24

Explanation:

HCF of (29−5), (60−12) & (103−7)

HCF of 24, 48 & 96

HCF = 24 = Greatest Number

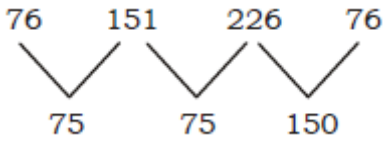
Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

9) Find the greatest number which is such that when 76,151 and 226 are divided by it, the remainders are all alike. Find also the common remainder.
   a) 57,2
   b) 75,2
   c) 75,1
   d) 57,1

ANS: c) 75,1

Explanation: In this type of question, first you find the difference of a given number & then the HCF of these numbers.

Difference of number:-



HCF of 75, 75, 150 is = 75

So 75 is the greatest number which, when divided by these numbers, the remainder is the same & when we divide 76 by 75, we find 1 is the remainder.

10) Find the smallest 3-digit number, such that it is exactly divisible by 3,4, and 5.
   a) 105
   b) 115
   c) 120
   d) 130

ANS: c) 120

Explanation: LCM of (3, 4 & 5) = 60

The smallest 3-digit number is 100. On dividing it by 60, we find that it is completely divisible when 20 is added in it. So 120 is the smallest 3-digit number which is exactly divisible by a given number.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

11) Find the smallest 3-digit number, such that when divided by 3,4, and 5, it leaves the remainder 2 in each case.
   a) 118
   b) 120
   c) 122
   d) 132

ANS: c) 122

Explanation:

LCM of (3, 4 & 5) = 60

The smallest 3-digit no is 100 on dividing it by 60 we find that it is completely divisible when 20 is added in it so exactly divisible number = 120

In order to get 2 as a remainder in each case, we will simply add 2 to 120

So the number is 122.

12) The difference between the Place value and the face value of 7 in the numeral 567823 is _____.
   a) 7
   b) 7000
   c) 693
   d) 6993

ANS: d) 6993

Explanation:

- Place value of 7 in 567823 = 7000.
- Face value of 7 in 567823 = 7.
- Difference between the Place value and the face value of 7 in the numeral 567823 = 7000 - 7 = **6993.**

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

13) Find the greatest number that will divide 43, 91, and 183 so as to leave the same remainder in each case.
   a) 4
   b) 7
   c) 9
   d) 13

ANS: a) 4

Explanation:

Required number = H.C.F. of (91 - 43), (183 - 91), and (183 - 43)

H.C.F. of 48, 92 and 140 = 4.

14) The H.C.F. of two numbers is 23, and the other two factors of their L.C.M. are 13 and 14. The larger of the two numbers is ____.
   a) 276
   b) 299
   c) 322
   d) 345

ANS: c)322

Explanation:

HCF = Common factor of 2 numbers; Therefore, HCF will be in 2 numbers.

Clearly, the numbers are (23 x 13) and (23 x 14).

Larger number = (23 x 14) = 322.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

15) The greatest number of four digits which is divisible by 15, 25, 40 and 75 is ____.

a) 9000
b) 9400
c) 9600
d) 9800

ANS: c) 9600

Explanation:

Option Checking:

Factors in 15,25,40,75 are 3,5,4.

opt a) Divisible by 3,5,4.

opt b) Not divisible by 3.

opt c) Divisible by 3,5,4.

opt d) Not divisible by 3.

They are asking for the greatest 4-digit number; therefore, opt c) 9600 will be the answer.

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

16) Two numbers are in the ratio 19 : 17. Their HCF is 11. Find the numbers.

a) 190,170
b) 209,187
c) 1700,1900
d) 221,247

ANS: b) 209,187

Explanation:

Since the HCF is 11, the two numbers must be 11 × 19 and 11 × 17.

Let the numbers be:

First number = 11×19 = 209
Second number = 11×17 = 187

Final Answer: 209 and 187

Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	HCF & LCM	Last updated on	01 August 2025

17) Two numbers are in the ratio of 3: 2 and their LCM is 96. Find the numbers.

a) 47 and 32
b) 46 and 32
c) 48 and 32
d) 66 and 31

ANS: c) 48,32

Explanation:

Two numbers are in the ratio 3:2

Their LCM = 96
Let the numbers be: 3x and 2x
Now, take the LCM of 3x and 2x, which is:
LCM=6x
6x=96
x = 16
3x = 3×16=48
2x = 2×16= 32