MATHS

BOOKS - S CHAND IIT JEE FOUNDATION

HCF AND LCM

Solved Examples

1. What is the product of the digits of the greatest number that divides 690 and 875

leaving remainders 10 and 25 respectively ?

A. 0

B. 10

C. 14

D. 20

Answer: 0

Watch Video Solution

2. Find the largest number which divides 55,127 and 175 so as to leave the same remainder in each case .

 Watch Video Solution

3. Find the smallest number which when decreased by 10 is exactly divisible by 16,21 ,24 and 42 ?

 Watch Video Solution

4. What is the least number which when divided by 36 , 38 , 57 , 114 and 19 leaves the remainder 26 , 28 , 47 , 104 and 9 respectively ?

Watch Video Solution

5. Find the smallest number of six digits that is exactly divisible by 40, 35 , 85 , 119 and 136 .

Watch Video Solution

6. The sum of two numbers is 204 and their HCF is 17 . Find all the possible pairs of such numbers .

 Watch Video Solution

7. The product of two numbers is 6300 and their HCF is 15. How many pairs of such numbers are there?

 Watch Video Solution

8. HCF and LCM of two numbers are 7 and 140 respectively . If the numbers are between 20 and 45 , then what is the sum of the numbers ?

Watch Video Solution

9. Find the HCF and LCM of 3,6,24 and 12

Watch Video Solution

10. A number lying between 1000 and 2000 is such that on division by 2,3,4,5,6,7 and 8 leaves remainders 1,2,3,4,5,6 and 7 respectively. The number is ?

Watch Video Solution

Question Bank

1. The sides of a triangular piece of ground measure 15547 , 17647, 3521 metres

respectively . Find the length of the largest hurdle that can be used to fence it exactly without bending or cutting a hurdle .

A. 6 m

B. 6.5 m

C. 7 m

D. 7.5 m

Answer: C

Watch Video Solution

2. The greatest number which divides 261, 933 and 1381 leaving remainders 5 in each case is

A. 128

B. 64

C. 32

D. 16

Answer: C

 Watch Video Solution

3. If 60 , 82 and 126 are each divided by a number , then the remainder is the same in each case . The greatest possible value of the divisor is

A. 16

B. 8

C. 22

D. 11

Answer: C

Watch Video Solution

Watch video solution

4. Let N be the greatest number that will divide 1305 , 4665 and 6905 Ieaving the same remainder in each case The sum of the digits in N is

A. 4

B. 5

C. 6

D. 8

Answer: A

 Watch Video Solution

5. Three sets of English, mathematics and science books containing , 336, 240 and 96 books respectively have to be stacked in such a way that all the books are stored subjectwise and the height of each stack is the same. How many stacks will be there ?

A. 14

B. 21

C. 22

D. 48

Answer: A

 Watch Video Solution

6. Swapnil ,Aakash and Vinay begin to joy around a circular stadium . They complete theirr revolutions in 36 seconds , 48 seconds and 42 seconds respectively .After how many

seconds will they be together at the starting point ?

A. 504 seconds

B. 940 seconds

C. 1008 seconds

D. 470 seconds

Answer: C

View Text Solution

7. The largest number five digits which when divided by 16, 24, 30, or 36 leaves the same emainder 10 in each case , is

A. 99279

B. 99370

C. 99269

D. 99350

Answer: B

Watch Video Solution

8. What least number x must be subtracted from 797 so that $(797 - x)$ on being divided by 8,9 and 11 leaves in each case the same remainder 4 ?

A. 0

B. 1

C. 2

D. 3

Answer: B

Watch Video Solution

9. The least number which when increased by 4 is divisible by each of the numbers 10,15 ,20 and 25 is

A. 296

B. 300

C. 304

D. 308

Answer: A

Watch Video Solution

10. A certain type of wooden board is sold only in lengths of multiples of 25 cm from 2 to 10 metres . A carpenter needs a large quantity of this type of board in 1.65 m length , For the minimum waste , the length to be purchased should be

A. 3.30 m

B. 6.60 m

C. 8.25 m

D. 9.95 m

Answer: C

 Watch Video Solution

11. Find the least number which when divided by 35 leaves a remainder 25 , when divided by 45 leaves a remainder 35 , and when divided by 55 leaves a remainder 45 .

A. 3465

B. 4575

C. 3455

D. 3670

Answer: C

Watch Video Solution

12. A number which when divided by 10 leaves remainder of 9,when divided by 9 leaves remainder of 8 and when divided by 8 leaves a remainder of 7 is

A. 1539

B. 5139

C. 2519

D. 9413

Answer: C

Watch Video Solution

13. The sum of two 2- diigit numbers is 132 . If their HCF is 11, the numbers are

A. 55,77

B. 44,88

C. 33,99

D. 22,110

Answer: A

 Watch Video Solution

14. The sum of two numbers is 684 and their H.C.F is 57. The number of possible pairs of such numbers is

A. 2

B. 3

C. 4

D. none

Answer: A

 Watch Video Solution

15. The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is

(a) 1 (b) 2 (c) 3 (d) 4

A. 1

B. 2

C. 3

D. 4

Answer: B

 Watch Video Solution

16. The LCM and HCF of two numbers are 84 and 21 respectively .If the ratio of the two

numbers is $1:4$ then the larger of the two numbers is

A. 12

B. 48

C. 84

D. 108

Answer: C

Watch Video Solution

17. H.C.F. of 3240, 3600 and a third number is 36 and their L.C.M. is $2^4 \times 3^5 \times 5^2 \times 7^2$. The third number is $2^2 \times 3^5 \times 7^2$ (b) $2^2 \times 5^3 \times 7^2$ (c) $2^5 \times 5^2 \times 7^2$ (d) $2^3 \times 3^5 \times 7^2$

A. $2^4 \times 5^3 \times 7^2$

B. $2^2 \times 3^5 \times 7^2$

C. $2^3 \times 3^5 \times 7^2$

D. $2^5 \times 5^2 \times 7^2$

Answer: B

Watch Video Solution

Watch video solution

18. The H.C.F. of two numbers is 12 and their difference is 12. The numbers are (a) 66, 78 (b) 70, 82 (c) 94, 106 (d) 84, 96

A. 12,84

B. 84,96

C. 64,76

D. 100112

Answer: B

Watch Video Solution

19. If two numbers are in the ratio $2:3$ and the product of their HCF and LCM is 33750 , then the sum of the numbers is

A. 250

B. 425

C. 325

D. 375

Answer: D

Watch Video Solution

20. Three numbers which are co-prime to each other are such that the product of the first two is 551 and that of the last two is 1073. The sum of the three numbers is (a) 75 (b) 81 (c) 85 (d) 89

A. 75

B. 81

C. 85

D. 89

Answer: C

 Watch Video Solution

21. The H.C.F. and L.C.M. of two numbers are 21 and 4641 respectively. If one of the numbers lies between 200 and 300, the two numbers are (a) 273, 357 (b) 273, 359 (c) 273, 361 (d) 273, 363

A. 273 , 363

B. 273359

C. 273361

D. 273357

Answer: D

 Watch Video Solution

22. The LCM and HCF of two numbers are 1530 and 51 . Find how many such pairs are possible .

A. 2

B. 3

C. 4

D. 1

Answer: C

Watch Video Solution

23. Three wheels can completed respectively 60, 36, 24 revolutions per minute . There is a red spot on each wheel that touches the

ground at time zero . After how much time , all these spots will simultaneously touch the ground again ?

A. $\frac{5}{2}$ s

B. $\frac{5}{3}$ s

C. 6s

D. 7.5 s

Answer: C

Watch Video Solution

24. Two numbers have 16 as their HCF and 146 as their LCM. How many such pairs of numbers are there ?

A. Zero

B. Only I

C. Only 2

D. Many

Answer: A

Watch Video Solution

25. If the LCM of three numbers is 9570, then their HCF is

A. 11

B. 12

C. 19

D. 21

Answer: A

View Text Solution

26. Find the least number of five digits which when divided by 16,24,30 and 32 leaves a remainder 2 in each case .

A. 10084

B. 10071

C. 10082

D. 10002

Answer: C

Watch Video Solution

27. The G.C.D. of 1.08, 0.36 and 0.9 is (a) 0.03 (b) 0.9 (c) 0.18 (d) 0.108

A. 0.03

B. 0.9

C. 0.18

D. 0.108

Answer: C

Watch Video Solution

28. Product of three natural numbers is 24000 and their HCF is 10. How many such triplets of numbers are there?

A. 5

B. 4

C. 6

D. 7

Answer: D

Watch Video Solution

29. The HCF and LCM of two numbers are 13 and 455 respectively If one of the number lies between 75 and 125, then, that number is:

A. 78

B. 91

C. 104

D. 117

Answer: B

Watch Video Solution

30. The least perfect square, which is divisible by each of 21, 36 and 66, is (a) 213444 (b) 214344 (c) 214434 (d) 231444

A. 214344

B. 214434

C. 213444

D. 231444

Answer: C

Watch Video Solution

Self Assessment Sheet

1. Match List -I with List -II and select the correct answer using the codes given below the lists :

	List-I (Numbers)	List -II(TheirLCM)
$A.$	12,80,20	1.48
$B.$	12,16,24	2.240
$C.$	5,18,20	3.180
$D.$	18,24,56	4.504

Codes :

	A	B	C	D
(a)	3	2	4	1
(b)	2	1	3	4
(c)	3	4	2	1
(d)	3	1	2	4

Watch Video Solution

2. Let p,q,r be natural numbers .if m is their LCM and n their HCF , consider the following :

1. mn = pqr if each one of p,q,r is prime

2. mn = pqr, if , p, q, r are relatively prime in pairs .

A. 1 only

B. 2 only

C. both 1 and 2

D. neither 1 nor 2

Answer: C

Watch Video Solution

3. The LCM of three different numbers is 150 .

Which of the following cannot be their HCF ?

A. 15

B. 25

C. 50

D. 55

Answer: D

View Text Solution

4. 5 bells start tolling together and toll at intervals of 2,4,6,8 and 10 seconds , respectively .How many times do the five bells toll together in 20 minutes ?

A. 10

B. 11

C. 12

D. 15

Answer: A

View Text Solution

5. If HCF of m and n is 1 , then what are the HCF of $m+n$, and HCF of $m-n$, n respectively ? $(m > n)$

A. 1 and 2

B. 2 and 1

C. 1 and 1

D. cannot be determined

Answer: C

 Watch Video Solution

6. If HCF of p and q is x and q = xy , then the LCM of p and q is

A. xy

B. py

C. qy

D. pq

Answer: B

Watch Video Solution

7. The LCM and HCF of two given numbers are 960 and 8 respectively . If one of them is 64 , then the other number is

A. 60

B. 120

C. 240

D. 480

Answer: B

Watch Video Solution

8. What is the least number which who divided by 7,9 and 12 leaves the same remainder 1 in each case ?

A. 253

B. 352

C. 505

D. 523

Answer: A

 Watch Video Solution

9. There are 576 boys and 448 girls in a school that are to be divided into equal sections of

either boys or girls alone . Find the total number of sections thus formed.

A. 24

B. 32

C. 16

D. None of these

Answer: C

 Watch Video Solution

10. What is the largest number which when divides 1475, 3155 and 5255 leave the same remainder in each case ?

A. 320

B. 420

C. 350

D. 410

Answer: B

Watch Video Solution