HCF & LCM Solved Sums

1 . The least common multiple of 24 , 36 , and 40 is

A) 340 b) 360 c) 230 d) 400

Answer :

2	24	36	40	
2	12	18	20	
2	6	9	10	-
3	3	9	5	
	1	3	5	_

=> 360

=> 2 X 2 X 2 X 3 X 1 X 3 X 5

Ans : 360

2 . The LCM $\,$ of 148 and 185 is $\,$

A) 690 b) 760 c) 740 d) 1050

Answe:

2	148	185	2X2X37X5 => 740
2	74	185	
37	37	185	
	1	5	

Ans : 740

3 . Find the LCM of 8 , 15 , 24 and 72

Answer :

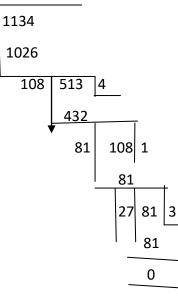
2	8 15 24 72	
2	4 15 12 36	2x2X2X3X5X3 => 360
2	2 15 6 18	
3	1 15 3 9	
	1 5 1 3	

Answer: 360

4. HCF of 513 and 1134 is

A)9 b)81 c)27 d)31

Answer :



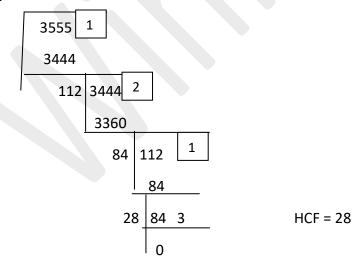
[when reminder is zero, at that time divisor is HCF]

Answer: 27

5. The HCF of 3556 and 2444 is

A)28 b)38 c)43 d)18

Answer :





6 . The LCM and HCF of two numbers are 45 and 3 respectively . their sum is 24 what is their difference ?

A)2, b)4, c)6 d)8

Answer :

A X B = LCM X HC

=> ab = 45 X 3 = 135 => ab =135 ---→ 1

 $A + b = 24 = b = 24 - a - - - \rightarrow 2$

Substitute 2 equ in 1 equ

⇒ A (24 - a) = 135 => 24a - a² = 125⇒ A² - 24a + 135 => (a-9) (a - 15)

A = 9 B = 15 difference = 6

Answer: 6

7. The product of two members is 4107 and their HCF is 37. The large number is

A)185 B)111 c)187 d)101

Answer :

A X B = LCM X HCF

⇒ 4107 = LCM X 37 => $LCM = \frac{4107}{37} = 111$

- \Rightarrow a = 111 , b = 37 , (or) a = 37 , b = 111
- \Rightarrow Large X number = 111

Answer: 111

8 . The LCM of two numbers is 495 and their HCF is 5 . If the sum of the two numbers is 100 , then Find the differene of the numbers

```
A)10 b)46 c)70 d)90
```

Answer :

```
A X B = LCM X HCF

A X B = 495 X 5 => ab = 2475 ---→ 1

\Rightarrow A + B = 100 --→ 2 => b = 100 - 9

\Rightarrow A X ( 100 - a ) = 2475 => a<sup>2</sup> - 100a + 2475 = 0

\Rightarrow A = 55 ( OR ) a = 45
```

⇒ B = 100 - 55 = 45 b = 45 , a = 55Difference = 10 Ans : 10

9. The LCM of two numbers is 48. The numbersare in the ratio 2:3 te sum of the numbers is ?

A) 35, b) 40, c) 60 d) 111 Answer: ratio = 2x : 3x $\Rightarrow X \begin{vmatrix} 2x & 3x \\ 2 & 3 \end{vmatrix} \Rightarrow 6x = LCM$ $\Rightarrow 6x = 48 \qquad x = 8$ Two numbers = > 2X8 : 3X8 = > 16 : 24

Answer: 40

10. Three numbers are in the ratio 1:2:3 and their HCF is 12. The number are

A) 4, 8, 12 b) 5, 10, 15 c) 10, 20, 30 d) 12, 24, 36

Answer :

Ratio = 1x : 2x : 3x \Rightarrow Find HCF x 1x 2x 3x 1 2 3 HCF = x \Rightarrow Therefor x = 12 => Number are 1 X 12 : 2 X 12 : 3 X 12 => 12 , 24 , 36

Ans: 12, 24, 36

11 . The ratio of two numbes is 3 : 4 and their HCF is 4 ther LCM is

A) 12 b) 16 c) 24 d) 48

Answer :

Ratio 3x:4x

 $= x \sqrt{3x \ 4x} \qquad x => 4$ $\Rightarrow 3 \times 4 : 4 \times 4$ $= > 12 : 16 => \text{ Find LCM } 2 \boxed{12, 16}$ $= > 2 \times 2 \times 3 \times 4 = 48 \qquad 2 \boxed{6 \ 8}$ Ans : 48 3 4

12 . The the greatest number that will divide 43 , 91 , & 183 so as to leave the same remain in each care

Answer :

= > (183 - 43) , (183 - 91), (91 - 43)

= > HCF of (140,92,48)

= > HCF of 4 140 92 48 35 13 12

HCF : 4

Ans:4

13 . The greatest number of 4 digits which is divisible by 20 , 25 , 40 and 75 is

A)9600 b)2000 c)9800 d) 3540

Answer:

2	20 25 40 75	
2	10 25 20 75	=> 2 X 3 X 5 X 2 X 2
5	5 25 10 75	=> LCM = 600
5	1 5 2 15	
	1 1 2 3	

 \Rightarrow Large number is 4 digit is = 9999

= > 9999/600 = 16 times reminder = 399

⇒ 9999 – 399 = 9600

Ans : 9600

14 . Find the greatest number of 4 digit which is divisible by 15 , 25 , 40 , 75

A)900 b)9400 c)9600 d)9300

Answer:

2	15	25	40	75	
2	15	25	20	75	
5	15	25	10	75	
5	3	5	2	15	
3	3	1	2	3	
	1	1	2	2 1	

 \Rightarrow 2X2X5X5X2X3

= > LCM = 600

⇒ Greatest number of 4 digit = 9999

= > 9999/600 = 16 times reminder = 399

⇒ 9999 – 399 = 9600

Ans : 9600

15. The greatest number of 4 digit which is divisible by 25, 20, 60 and 100 is

A) 2000 b) 4000 c) 5000 d) 2600

Answer :

2	20	25	60	100
2	10	25	30	50
5	5	25	15	25
5	1	5	3	5
	1	1	3	1

⇒ Find the which answer is divisible correctly

And larger 4 digit number

 \Rightarrow 6000/300 = 20 remainder = 0

Ans : 6000

16. Find the smallest number which when diminished by 7, is divisible by 12, 16, 18,

21 and 28 .

Answer :

2	12	16	18	21	28
2	6	8	9	21	14
2	3	4	9	21	7
3	3	2	3	7	7
7	1	2	1	7	7
	1	2	1	1	1

= > 2 X 2 X 2 X 2 X 3 X 7 = > 1008

= > 1008 + 7 = 1015

Ans : 1015

17. Six bells commence tolling together, afterwards they toll at intervals of 2, 4, 6, 8, 10, 12 seconds respect respectively. In 30 minutes how many times do they toll together?

A)4 b)10 c)15 d)16

Answer:

2	2	4	6	8	10	12	
2	1	2	3	4	5	6	= > 2 X 2 X 2 x 3 X 5
3	1	1	3	2	5	3	= > LCM = 120 sec
	1	1	1	2	5	1	

= > 120 sec = 2 min => 30/2 = 15 time

$$= > 15 + 1 - \rightarrow$$
 first 2 second $= > 15 + 1 = 16$

Ans : 16

18. Find the least common multiple of 4/5, 3/10, and 7/15

A)84/5, b)5/84, c)2/15 d)12/15

Answer :

LCM of divied HCFof dicisior \Rightarrow LCM = 4 X 3 X 7 = 84 HCF = 5, 10, 15 = 5 => 84/5 Ans : 84/5 19. The LCM of 1/3, 5/6, 2/9, 4/27, is A) 1/59, b) 10/27 c) 20/3 d) non of these LCM of divied HCFof dicisior => 2 | 1 5 2 4 51 2 => 2 X 5 X 2 = 20 1 ⇒ HCF of 3, 6, 9, 27 = > 3 Ans : 20/3 20 . Find the HCP of 4/9 , 2/5 , 6/8 , 2/5 is A) 1/180 b) 2/481 c) 2/350 d)1/142 Answer : LCM of divied HCFof dicisior ⇒ HCF of 4, 2, 6, 2 => 2 \Rightarrow LCM of 9, 5, 8, 5

5 9 5 8 5 => 5 X 2 X 2 X 2 X 3 X 3 2 9 1 8 1 LCM = 60 2 9 4 1 1 3 9 2 1 1 3 2 1 1

⇒ 2/360 = > 1/180

Ans : 1/180

21. The HCF of two numbers is 8, which one of the following can never be their LCM?

a) 24 b) 48 c) 56 d) 60

Answer :

⇒ The HCF of two numbers is 1,8

 \Rightarrow This mean 8 is a factor common to both the numbers .

⇒ LCM is common multiple for the two numbers.

 \Rightarrow 24, 48, 56 is divided by 8

 \Rightarrow 60 not divided by 8 = > then 60 is correct

Ans : 60

22. The product of the two numbers is 900. If the LCM of these two numbers is 300, then

Find HCF ?

Answer :

A X B = LCM X HCF

⇒ 900 = 300 X HCF = > HCF = 3

Ans : 3

23. The product of two co- prime number is 117. Their least common multiple is

```
A)351 b)234 c)39 d)117
```

Answer :

[HCF of two co-prime is = 1]

= > HCf of 117 is = 1

= > The LCM is = > 117/1

Ans : 117

24 . Two numbers are in the ratio 3 : 4 and the product of their LCM and HCF is 10800. The sum of the number is

A) 180 b) 210 c) 825 d) 240

Answer :

Ratio 3x : 4x

⇒ 3x X 4x = 10800

 $= > 12x^2 = 10800$ $= > x^2 = 10800/12$

 $\Rightarrow x^2 = 900 = x = 30$

= > 3 X 30 : 4 X 30 => 90 : 120

Sum = 90 + 120 = 210

Ans : 210

25 . Three numbers are in the ratio 1 : 2 : 3 their heiher common factor is 12 . Find the numbers

A) 12, 24, 36 b) 4, 48, 72 c) 12, 24, 48 d) 48, 60, 72

Answer :

Ratio 1x : 2x : 3x

Find HCF = > 1x 2x 3x HCF = x 1 2 3

Then x = 12

⇒ Ratio 12 : 24 : 36

Ans: 12, 24, 36

26 . Two numbers are in the ratio of 2 : 3 and the product of their highest common factor and least multiple is 150 , then Find the sum of the number is ,

A) 5 b) 10 c) 20 d) 25

Answer :

Ratio 2x : 2x

⇒ 2x X 3x = 150

 $= > 6x^2 = 150$ $= > x^2 = 150/6$ $= x^2 = 25$

= > x =5

```
⇒ Ratio 10:15
```

= > sum 10 + 15 = 25

Ans : 25

27 . Find The least number which when divided by 5 , 6 , 7 and 8 leaving a remainders 3 but when divided by 9 leaves no remainders ?

Answer :

 \Rightarrow Finf LCM of 5, 6, 7 and 8

= > 5 x 6 X 7 X 8 = 840

= > 840 + 3 = 843

= > 843 is divided by 9 or not ,

8 + 4 + 3 = 15 = > 15/9 = remainder = 1

843 is not divided by 9

= > 840 X 2 X 3 => 1683

= > 1683 X 2 + 3 = > 1683

= > 1683 is divided by 9 or not ,

1+6+8+3=18 => 18/9 = reminder = 0

1683 is divided by 9

⇒ Then 1683 is correct ans

Ans: 1683.

28. The greatest number that will divide 137, 182 1nd 482 leaving a remainder 2 in each case is

422 leaving a remainder 2 in each case is

A)15 b)21 c)12 d) 22

Answer :

= > 137 - 2 , 182 - 2 , 422 - 2

=> 135 180 420

 \Rightarrow Then find the HCF of 135 , 180 , 420

Ans : 15

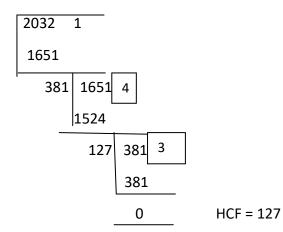
29 . The greatest number which of dividing 1657 and 2032 leaves remainders 6 and 5 respectively .

Answer :

= > 1657 - 6 = 1651 = > 2037 - 5 = 2032

 \Rightarrow The find HCF of 2032 , 1651

1651



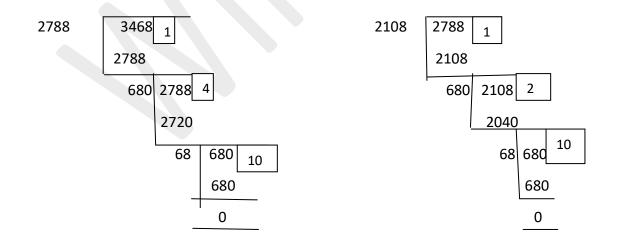
Ans : 127

30. What is the largest number by which when 2109,2790 and 3471 divided then 1, 2, 3 are obtained as remainder respectively ?

Answer :

```
= > 2109 - 1 = 2108
= > 2790 - 2 = 2788
```

 \Rightarrow Find the HCF of 2105 , 2788 , 3468



HCF = 68

HCF = 68

Ans : 68

12 www.winmeen.com | Paid Copy – Don't Share With Anyone