**1. Find the smallest number which leaves the remainders 13, 41 and 29 at the end when divided by 20, 48 and 36 respectively.**

a. 187  
b. 713  
c. 720  
d. 727

Ans:-**713** Digit Sum According to

**Number = 713+7=720 i.e divisible by 36 i.e 9**

**2.  A number when divided by 36, 24 and 16, leaves the remainder 11 in each case. Find the smallest value of this number.**

Ans:-**155** Digit Sum According to

**Number = 155-11=144 which is divisible by 9**

3. **A 4 digit number which when divided by 12, 16 and 18 gives out a common remainder i.e. 21. Find the smallest/ least such number.**

Ans:- **Answer:** d. **1461**

1461-21=1440 i.e divisible by 18

4. **The two given numbers A and B are in the ratio 5:6 such that their LCM is 480. Find their HCF.**

Ans:-16

**5. The sum of two given numbers P and Q is 56. Their LCM and HCF is 96 and 8 respectively.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Find the sum of** | **1** | **+** | **1** | **.** |
| **P** | **Q** |

Ans:- **Explanation:**

**Tip:**   
If A and B are two numbers,  
**A x B = HCF x LCM**

Let numbers be P and Q  
Also, P + Q = 56 and PQ = HCF x LCM = 8 x 96

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | + | 1 | = | P + Q | = | 56 | **=** | **7** |
| P | Q | PQ | 8 x 96 | **96** |

6.Find the largest number which when divides 47, 35 and 27 leaves the same remainder. Also find the value of the remainder.

a. 3, 4  
b. 4, 3  
c. 1, 9  
d. 9, 1

**Ans:-** 4, 3

HCF = 4 and Common remainder = 3.

A red light flashes 3 times per minute and a green light flashes 5 times in two minutes at regular intervals. If both lights start flashing at the same time, how many times do they flash together in each hour?

Ans:- The red light will flash for the first time in one minute =60/3=20 sec.

Similarly the green light will flash for the first time in two minutes=120/5= 24sec.

 simply taking the LCM of 20 and 24=120.

Therefore both the lights will flash together for the first time in 120 sec.

Therefore the number of intervals of 120 seconds in one hour is= 3600/120= **30✓.**

The given five signals light up automatically at intervals of 3 min, 4 minutes, 8 min, 10 min, and 12 min respectively. How many times in 8 hours will they light up together from the time they start?

Ans:- (LCM) of 3, 4, 8, 10, 12=**120**

**Now 8\*60/120=4 times.**

A pattern is formed with six type of LEDs. They start lighting together and then light at intervals of 2, 4, 6, 8, 10 and 12 seconds, respectively. In half an hour, how many times do they light together?

**Ans:-16**

**LCM of 2,4,6,8,10,12=120, After 120 sec they light together.**

**So, in half hour =30\*60/120=15times+ 1(they was start light first time)=16Ans.**

In a race on a circular track, the three athletes complete one round in 27 minutes, 45 minutes and 63 minutes respectively. Find the time after which they meet again at the starting point, since the time they started.

Ans:-945 min.

LCM of 27  45     63=945min

Find the smallest number which when reduced by 7, can be perfectly divided by 12, 16, 18, 21 and 28 each.

a. 1008  
b. 1015  
c. 1022  
d. 1032

Ans:-1015 is the solution.

1015 -7=1008 divisible by 18.

|  |
| --- |
| Which of the following has the most number of divisors? |
| |  |  | | --- | --- | | [A]. | 99 | | [B]. | 101 | | [C]. | |  |  | | --- | --- | | 176 | @ | | | [D]. | 182 | |

Ans: 99 = 1 x 3 x 3 x 11

101 = 1 x 101

176 = 1 x 2 x 2 x 2 x 2 x 11

182 = 1 x 2 x 7 x 13

So, divisors of 99 are 1, 3, 9, 11, 33...99.

Divisors of 101 are 1 and 101

Divisors of 176 are 1, 2, 4, 8, 11, 16, 22, 44, 88 and 176

Divisors of 182 are 1, 2, 7, 13, 14, 26, 91 and 182.

Hence, 176 has the most number of divisors