Exercise – 6A

A.) 3.) $7 \times 19 = 133$. So, 7 and 19 are factors of 133.

4.) $6 \times 15 = 90$. So, 6 and 15 are factors of 90.

C.) 1.) 9, 18, 27, 36

3.) 56, 64, 72, 80, 88

Exercise – 6B

2.) 2 and 3 prime numbers whose difference is 1.

$3 - 2 = 1$

7.) d.) $86 \rightarrow 19 + 67$

f.) $94 \rightarrow 5 + 89$

9.) b.) $41 + 43$

c.) $59 + 61$

Exercise – 6C

N.) 1.) $75 \star 3$

Sum of it's digits $= 7 + 5 + 3$

$= 15$, which is divisible by 3.

To be divisible by 3, the least value of $\star$ should be 0 i.e., $15 + 0 = 15$. which is a multiple of 3.

$\therefore \star = 0$

O.) 1.) $67 \star 19$

Here, $6 + 7 + 1 + 9 = 23$, which is not divisible by 9.

To be divisible by 9, the least value of $\star$ should be 4 i.e. $23 + 4 = 27$. which is a multiple of 9.

$\therefore \star = 4$

Exercise - 6D

A.) 2.) 10 and 28

$10 = 1 \times 10$, $10 = 2 \times 5$

$28 = 1 \times 28$, $28 = 2 \times 14$, $28 = 2 \times 2 \times 7$

Common factors of 10 and 28 is 1 and 2.

B.) 3.) 18 and 45

$18 = 1 \times 18$, $18 = 2 \times 9$, $18 = 3 \times 6$

All the factors of 18 are 1, 2, 3, 6, 9 and 18.

Also, $45 = 1 \times 45$, $45 = 3 \times 15$, $45 = 5 \times 9$

All the factors of 45 are 1, 3, 5, 9, 15 and 45.

Common factors of 18 and 45 are 1, 3, 9

Thus, H.C.F. of 18 and 45 is 9.

C.) 1.) 18, 35, 2.) 21, 40. 5.) 20, 51, 6.) 27, 65

7.) 56, 123 8.) 68, 123

Exercise - 6E

B.) 2.) 5 and 8

multiples of 5 are, 5, 10, 15, 20, 25, 30, 35, 40

Multiples of 8 are, 8, 16, 24, 32, 40, 48.

Thus, common multiples of 5 and 8 are 40.

Therefore, L.C.M. of 5 and 8 is 40.

Exercise - 6 F

A) 1) $4 \times 4 \times 4 \times 4 \times 4 \times 4 = 4^6$

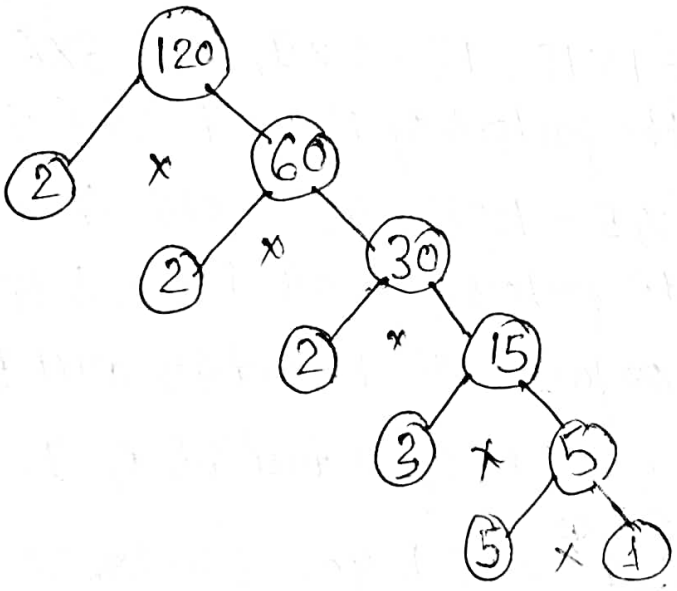
B) 1) $4^8 = 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$

C) 2) $45 = 3 \times 3 \times 5$

$= 3^2 \times 5$

D)

2	120
2	60
2	30
3	15
5	5
	1



F) 2) 20 and 75

2	20
2	10
	5

5	75
5	15
	3

Prime factors of 20 and 75

$20 = 2 \times 2 \times 5 = 2^2 \times 5$

$75 = 5 \times 5 \times 3 = 5^2 \times 3$

H.C.F. of 20 and 75 = product of terms with smallest power of common factors

$= 5^1$

$= 5$

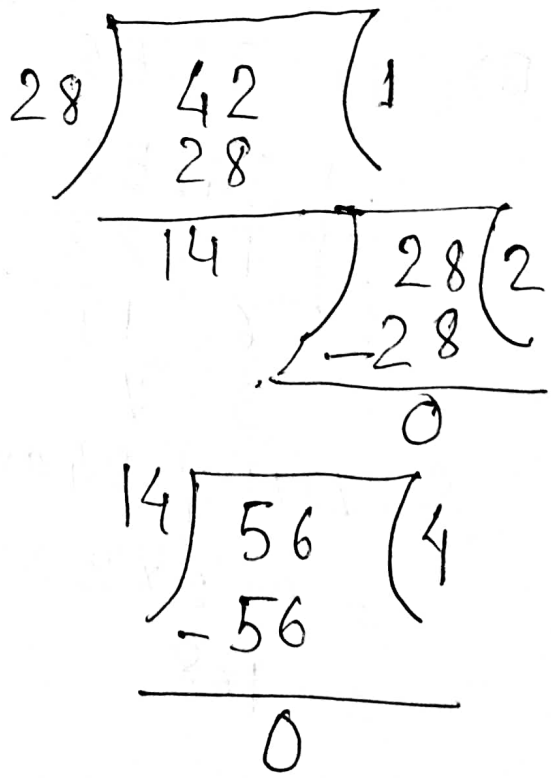
Q:) 11:) 28, 42, 56

We first find the HCF of any two numbers (28, 42)

Since, last divisor is 14, so 14 is the HCF of 28 and 42.

Now, we find the HCF of 14 and 56.

Hence, HCF of 28, 42 and 56 is 14.



Exercise 6G

A) 3.) 20 and 35

$$\begin{array}{r|l} 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \qquad \begin{array}{r|l} 5 & 35 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

So, $20 = 2 \times 2 \times 5$

$35 = 5 \times 7$

The different prime factors of 20 and 35 are 2, 5 and 7.

L.C.M of 20 and 35 = product of terms containing highest power of 2, 5 and 7.

$= 2^2 \times 5 \times 7$

$= 4 \times 5 \times 7$

$= 20 \times 7$

$= 140$

B) 5.) 24, 56

$$\begin{array}{r|l} 2 & 24, 56 \\ \hline 2 & 12, 28 \\ \hline 2 & 6. \ 14 \\ \hline & 3 \quad 7 \end{array}$$

So, LCM of 24 and 56

$= 2 \times 2 \times 2 \times 3 \times 7$

$= 168$

C.) 1) Given,

HCF = 34
LCM = 476
One number = 68

We Know that

HCF x LCM = First number x Second number

$$\text{Second number} = \frac{\text{HCF} \times \text{LCM}}{\text{First number}}$$

$$= \frac{34 \times 476}{68}$$

$$= \frac{16184}{68}$$

$$= 238$$