

Cw  
25.6.21

Ex - 8 (c)

Q.1(i) 8, 12 and 24

$$\begin{array}{r} 2 \overline{) 8, 12, 24} \\ 3 \overline{) 4, 6, 12} \\ 2 \overline{) 2, 3, 6} \\ 2 \overline{) 1, 1.5, 3} \\ 3, 1, 1 \end{array}$$

$$\text{LCM} = 2 \times 3 \times 2 \times 2 \times 3 \times 4 = 208$$

Q.2(ii) 100, 150 and 200

$$\begin{array}{r} 2 \overline{) 100, 150, 200} \\ 2 \overline{) 50, 75, 100} \\ 5 \overline{) 25, 75, 500} \\ 5 \overline{) 5, 15, 10} \\ 1, 3, 2 \end{array}$$

$$\text{LCM} = 2 \times 2 \times 5 \times 5 \times 3 \times 2 = 600$$

Q.2(iii) 14, 21 and 98

$$\begin{array}{r} 2 \overline{) 14, 21, 98} \\ 7 \overline{) 7, 21, 49} \\ 1, 3, 7 \end{array}$$

$$\text{LCM} = 2 \times 7 \times 3 \times 7 = 294$$

Q.2(iv) 22, 121 and 33

$$\begin{array}{r} 11 \overline{) 22, 121, 33} \\ 2, 11, 3 \end{array}$$

$$\text{LCM} = 11 \times 2 \times 11 \times 3 = 726$$

Q2) 34, 85, 51

$$\begin{array}{r|l} 17 & 34, 85, 51 \\ \hline & 2, 5, 3 \end{array}$$

$$LCM = 17 \times 2 \times 5 \times 3 = 510$$

Ex = Q) HCF 12 and 18 =  $2 \times 3 = 6$

$$\begin{array}{r|l} 2 & 12, 18 \\ \hline 2 & 6, 9 \\ \hline & 3, 3 \end{array}$$

$$LCM = 2 \times 3 \times 3 \times 2 = 36$$

$$HCF \times LCM = 36 \times 6 = 216$$

$$12 \times 18 = 216$$

Q.3) ~~HCF~~  $\Rightarrow$  The HCF of and the LCM of two nos are 50 and 300 respectively. If one of the nos. is 150, find the other one?

ans HCF = 50

$$LCM = 300$$

$$\text{Product of LCM and HCF} = 300 \times 50 = 15000$$

One no. = ~~150~~ 150

$$\text{The other no.} = \frac{LCM \times HCF}{\text{One no.}} = \frac{15000}{150} = 100$$

Q.6) Find the smallest no. number which, when divided by 12, 15, 18, 24 and 36 gives no remainder.

ans

$$\begin{array}{r|l}
 3 & 12, 15, 18, 24, 36 \\
 \hline
 2 & 4, 5, 6, 8, 12 \\
 \hline
 2 & 2, 5, 3, 4, 6 \\
 \hline
 3 & 1, 5, 3, 2, 3 \\
 \hline
 & 1, 5, 1, 2, 1
 \end{array}$$

$$LCM = 3 \times 2 \times 2 \times 3 \times 5 \times 2 = 360$$

$\therefore$  360 is the no. which when divided by 12, 15, 18, 24, 36 leaves no remainder.

Q1) ii) 10, 15, 20

$$\begin{array}{r|l}
 5 & 10, 15, 20 \\
 \hline
 2 & 2, 3, 4
 \end{array}$$

$$LCM = 5 \times 2 \times 3 \times 4 = 120$$

Q1) iii) 36, 9 and 12

$$\begin{array}{r|l}
 3 & 3, 6, 9, 12 \\
 \hline
 1 & 2, 3, 4
 \end{array}$$

$$LCM = 3 \times 2 \times 3 \times 4 = 72$$

Q2) c) 18, 24 and 96

$$\begin{array}{l}
 2 \mid 18, 24, 96 \\
 2 \mid 9, 12, 48 \\
 3 \mid 3, 6, 24 \\
 3 \mid 1, 2, 12 \\
 4 \mid 1, 2, 4
 \end{array}$$

$LCM = 2 \times 2 \times 3 \times 3 \times 2 \times 4 = 288$

Q4) The product of two nos. = product of their HCF and LCM.

Here product of two nos. = 432

$LCM = 72$

$$HCF = \frac{432}{72} = 6$$

Q5) The product of two nos. is 19200 and their HCF is 40. Find their LCM?

∴ Product of two nos. = Product of their LCM and HCF.

Here the HCF = 40

$$LCM = 19200 \div 40 = 480$$

∴ LCM is 480.

Q.7) Find the smallest no. which, when divided & increased by one is exactly divisible by 12, 18, 24, ~~32~~ and 32 and 40.

ans LCM of 12, 18, 24, 32, 40 = 1440

1440 divisible by 12, 18, 24, 32 and 40

If increased by 1, the no. =  $1440 - 1 = 1439$

If we add 1 to 1439, the sum is 1440 that is divisible by 12, ~~18~~<sup>18</sup>, 24, 32 and ~~40~~<sup>40</sup>.

8. Find the smallest no. which on being decreased by 3, is completely divisible by 18, 36, 32 and 27

ans. LCM of 18, 36, 32, and 27 =

LCM =  $2 \times 2 \times 3 \times 3 \times 8 \times 3 = 864$

2	18, 36, 32, 27
2	9, 18, 16, 27
3	9, 9, 8, 27
3	3, 3, 8, 9

If decreased by 3, the no. =

$1, 18, 8, 3$

$864 + 3 = 867$

If we decrease 3 <sup>from</sup> 867, the difference is ~~1440~~<sup>864</sup> that is divisible by 18, 36, 32 and 27.