C.W
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Date
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2.(i) (a) 72, 80, 252

2.(ii)

Prime factors of $72 = 2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$

Prime factors of $80 = 2 \times 2 \times 2 \times 2 \times 5 = 2^4 \times 5$

Prime factors of $252 = 2 \times 2 \times 3 \times 3 \times 7 = 2^2 \times 3^2 \times 7$

2	72
2	36
2	18
3	9
3	3
	1

2	80
2	40
2	20
5	10
	2

2	252
2	126
3	63
3	21
	7

LCM $= 2^4 \times 3^2 \times 5 \times 7 = 5040$

$= 16 \times 9 \times 5 \times 7$

(ii) (a) 48, 66, 120

Prime factors of $48 = 2 \times 2 \times 2 \times 2 \times 3 = 2^4 \times 3$

Prime factors of $66 = 2 \times 3 \times 11 = 2 \times 3 \times 11$

Prime factors of $120 = 2 \times 2 \times 2 \times 3 \times 5 = 2^3 \times 3 \times 5$

2	48
2	24
2	12
2	6
	3

2	66
3	33
	11

2	120
2	60
2	30
3	15
	5

$= 2^4 \times 3 \times 11 \times 5 = 16 \times 3 \times 11 \times 5 = 48 \times 11 \times 5 = 528 \times 5 =$

2640 Ex - 8(c)

2	12, 18, 24, 32, 40
2	6, 9, 12, 16, 20
2	3, 9, 6, 8, 10
3	3, 9, 3, 4, 5
	1, 3, 1, 4, 5

LCM = $2 \times 2 \times 2 \times 3 \times 3 \times 4 \times 5 = 1440$

8. 1440 − 1 = 1439 Now, 1439 + 1 = 1440

So the smallest no. is 1439

Revision Exercise (Ch-8)

HCF

108, 288 and 420

108) 420 (3
−324
96) 108 (1
−96
12) 96 (8
−96
0

12) 288 (24
−24
48
−48
0

∴ HCF is 12.

(v) 36, 54 and 138

```
36 )138( 3          6)54(9
  -108               -54
   30)36(1            0
    -30
     6)30(5
      -30
       0
```

∴ The HCF is 6.

6(i) Find the smallest no. that is completely divisible by 28 and 42.

ans.

```
2 | 28, 42
7 |_14, 21
    2,  3
```

LCM = 2×7×2×3 = 84 ∴ The smallest no. that is completely

(ii) divisible by 28 and 42 is 84.

(ii) Find the largest no. that can divide 28 42 and 42 completely.

ans

```
28)42(1
  -28
   14)28(2
     -28
      0
```

∴ 14 is the largest no. that can divide 28 and 42 completely

Q8) Find the H.C.F. of 108 and 450 and use the HCF obtained to find the L.C.M of the given nos.

ans.

2	108, 450
3	54, 225
3	18, 75
	6, 25

HCF = 2x3x3 = 18

Product of the nos. = HCF x LCM

$LCM = \frac{108 \times 450}{18} = 108 \times 25 = 2700$

∴ The LCM is 2700 and HCF is 18.

HW

Ex - 8(e)(Q2)

Revision exercise all.

Q2) State true or false. (Give an example in support of your answer in each case).

i) HCF of two prime nos. is 1: True

1 | 5, 7 HCF = 1
5, 7

a. (i) H.C.F. of two coprime nos. is 1. True

1 | 15, 16 HCF = 1
15, 16

(ii) LCM of two prime nos is equal to their product.

True. 1 | 5, 7 LCM = 5 × 7 = 35
5, 7

is equal to -

5 × 7 = 35

(iv) LCM of two co-prime nos. is equal to their products.

True. 1 | 15, 16 LCM = 15 × 16 = 240
15, 16

is equal to -

15 × 16 = 240

Q.4) The product of two nos. is 12096 and their HCF 36. Find their LCM.

Ans. The product of 2 nos. = 12096

Their HCF = 36

Their LCM = 12096 ÷ 36 = 336.

So, their LCM is 336.

Q.5) The product of HCF and LCM is of two nos. is 1152.
If one of the no. is 48, find the other one.

ans Product of HCF and LCM of two nos. = 1152

One no. = 48

Other no. = 1152 ÷ 48 = 24.

∴ The other no. is 24.

Q7) Find the smallest no., which ~~when~~ is increased by

Q7. Find the LCM of 140 and 168. Use the LCM obtained to find the HCF of the given nos.

ans

2	140, 168
2	70, 84
7	35, 42
	5, 6

LCM = 2×2×7×5×6.

= 840

$$
\begin{array}{r|l}
140 & 1848 \\
-840 & \\
\hline
0 &
\end{array}
\qquad
\begin{array}{r|l}
140 & 168 \\
-140 & \\
\hline
28 & 140 \\
-140 & \\
\hline
0 &
\end{array}
\quad 1 \quad 5
$$

HCF = 28

∴ The LCM is 840 and the HCF is 28