EX 8(c)

1) Using the common multiple method, find L.C.M.

i) 8, 12 and 24.

Ans) 8 = 8, 16, 24, 32, 40, 48
12 = 12, 24, 36, 48, 60
24 = 24, 48, 72, ...

Common ~~fact~~ multiple - 48, 24.
LCM = 24.

ii) 10, 15, and 20.

10 = 10, 20, 30, 40, 50, 60
15 = 30, 45, 60, 75
20 = 20, 40, 60, 80, 100

Common multiple = 60
L.C.M = 60

iii) 3, 6, 9 and 12

3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36
6 = 6, 12, 18, 24, 30, 36
9 = 9, 18, 27, 36, 45, 54,

12 = 12, 24, ~~18~~ ~~24~~, 36, 48

Common factor = 36
LCM = 36

2) ~~1~~ ~~2~~ 18, 24, 96

Ans) 18 = 2 | 18, 24, 96
24 = 2 | 9, 12, 48
96 = 3 | 9, 6, 24
2 | 3, 2, 8
3, 1, 4

LCM = 2 × 2 × 2 × 3 × 3 × H = 288

iia) 100, 150 and 200

5 | 100, 150, 200
5 | 20, 30, 40
2 | 4, 6, 8
2 | 2, 3, 4
1, 3, 2

LCM = 5 × 5 × 2 × 2 × 3 × 2 = 600

~~10 Prime common factor me~~

10 Prime factor method

100 = 5 × 2 × ~~5~~ 2 × 5
150 = 5 × 2 × 3 × 5
200 = 5 × 2 × 2 × 5 × 2

LCM = 5 × 2 × 5 × 2 × 3 × 2 × 2 = 600

iii) 14, 21 and 98

7 | 14, 21, 98	LCM = 7 × 2 × 3 × 7 =
2 | 2, 3, 14	~~294~~ 294
1, 3, 7	

Prime factor method

14 = 2 × 7
21 = 3 × 7
98 = 2 × 7 × 7

LCM = 7 × 2 × 3 × 2 × 7
= 294

iv) 22, 121 and 33

11 | 22, 121, ~~and~~ 33	LCM = 11 × 2 × 11 × 3
2, 11, 3	= 726

Prime factor method

22 = 1 × 2
33 = 11 × 3
121 = 11 × 11

LCM = 11 × 2 × 3 × 11
= 726

v) ~~8~~0, 60, 90 and 105

~~5~~ 5 | 30, 60, 90, 105	LCM = 5 × 2 × 3 × ~~7~~ 2 ×
2 | 6, 12, 18, 21	3 × 7 =
3 | 3, 6, 9, 21	
1, 2, 3, 7	

v) 34, 85 and 51

17 | 34, 85, 51
2, 5, 3

LCM = 17 × 2 × 5 × 3
= 510

$34 = 2 \times 17$
$85 = 5 \times 17$
$51 = 3 \times 17$

LCM = 17 × 2 × 5 × 3
= 510

Exc 8 (B)

3) HCF: 50, LCM: 300 one no. is 150 other one is?

Ans) 150 × other no. = 50 × 300
other no. = $\frac{50 \times 300}{150}$
= 100

4) The product of 2 numbers are 50 and 30 respectively. If one of the no. is 150, find the other one

Ans) 42 = 2 × L.C.M of 42, 21

$42 = 2 \times 3 \times 7^2$
$21 = 3^2 \times 7 \times 5$

LCM = 2 × 3 = 7
$= 2 \times 3^2 \times 7^2 \times 5$
=

Ans) LCM is 72

HCF : $\frac{\text{Product of 2 nos}}{\text{L.CM}} = \frac{432}{72}$

$= 6$

6) Find the smallest number, which when, devided by 12, 15, 18, 24 and 36 leaves no remainder

Ans) L.CM of 12, 15, 18, 24 and 36 is 360

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

Ans) L.CM of 12, 18, 24, 32 and = 1440 ≡ 1440 - 1 = 1439

The required no. is = 14

8)

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, 27

The required no = 867

2	18, 36, 32, 27
3	9, 18, 16, 27
3	9, 9, 8, 27
3	3, 3, 8, 9
	1, 1, 8, 3