~~LCM => 3×2×3×2 = 36~~

i) 8, 12, 24

A) 8 => 8, 16, (24), 32, 40, 48, 56,
12 => 12, (24), 36, 48,
24 => (24), 48, 72
LCM => 24

ii) 10, 15, 20
A) (10) => 10, 20, 30, 40, 50, (60)
(5) => 15, 30, 45, (60)
20 => 20, 40, 60, (60)
LCM => (60)

iii) 3, 6, 9, 12
A) (3) => 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, (36)
(6) => 6, 12, 18, 24, 30, (36), 42, 48, 54, 60
(9) => 9, 18, 27, (36), 45, 54
(12) => 12, 24, (36), 48, 60
LCM => (36)

Ex-8(c)

Prime factor method

2) i) 18, 9, 24, 96

Ans

2	18, 24, 96
3	9, 12, 48
2	3, 4, 16
2	3, 2, 8
	3, 1, 4

LCM ⇒ 2×3×2×2×3×4

= 288

ii) 100, 150, 200

Ans

2	100, 150, 200
5	50, 75, 100
5	10, 15, 20
2	2, 3, 4
	1, 3, 2

LCM ⇒ 2×5×5×2×3×2

= 600

iii) 14, 21, 98

Ans

7	14, 21, 98
2	2, 3, 14
7	1, 3, 7
3	1, 3, 1
	1, 1, 1

LCM ⇒ 294

iv) 22, 121, 33

Ans

2	22, 121, 33
11	11, 121, 33
	1, 11, 3

2×11×11×3

= 726

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2) 34, 85, 51

A) 2 | 34, 85, 51
17 | 17, 85, 51
1, 5, 3

LCM = 2 × 17 × 5 × 3
= 510

(3) A) Solution: H.C.F = 50 LCM = 300

One number = 150
We know that, product of H.C.F and LCM of two numbers is equal to product of those two numbers.

50 × 300 = 150 × other number
15000/150 = other number
100 = other number
Hence, the other number is 100.

(4) A) We know that product of two no.s = product of H.C.F and L.C.M.

Product of two no.s = 432
LCM of two no.s = 72

So, 432 ÷ 72 = (6)

∴ So, the H.C.F of two numbers is 6.

5) A) Product of two no.s = Product of their HCF and L
Product of two nos = 9,200
H.C.F = 40

LCM => 19,200 ÷ 40

= 480

∴ Hence, the L.C.M of two numbers is 480.

6) As Here we know that the smallest number which when divided means we have to do LCM of 12, 15, 18, 24 and 36.

2	12, 15, 18, 24, 36
3	6, 15, 9, 12, 18
3	2, 5, 3, 4, 6
2	2, 5, 1, 4, 2
	1, 5, 1, 2, 1

2 × 3 × 3 × 2 × 5 × 2

= 360

7) A→

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 => 1440 (increased by one)

= 1440 - 1 = 1439

∴ The smallest number which when increased by one is exactly divisible by 12, 18, 24, 32 and 40 is 1439.

(8) A→

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

LCM ⇒ 864

= 864 + 3 = 867

∴ So, the required number is 867.