Exercise 8(c)

Evaluated Questions

1- Using the common multiple method, find the LCM of of the following.

(i) 8, 12, and 24

8: 8, 16, 24, 40, 48, and so on

12: 12, 24, 36, 48 and so on

24: 24, 48, 72, 96, and so on

Lowest common multiple = 24

(ii) 10, 15 and 20

10: 10, 20, 30, 40, 50, 60 and so on

15: 15, 30, 45, 60, 75, and so on

20: 20, 40, 60 and, so on

Lowest common multiple: 60

1, Q1 - 3, 6, 9 and 12

Ans 3: 3, 6, 9, 12, 15, 18, 21, 24 and so on

6: 6, 12, 18, 24, 30, 36 and so on

9: 9, 18, 27, 36, 45, 54 and so on

2.] 18, 24 and 96

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

L.CM = 2 × 3 × 2 × 2 × 2 × 3 × 2 = 288

ii] 100, 150, and 200

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 and 98

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

LCM = 7 × 2 × 3 × 7 = 294

3 HCF and LCM of two numbers given.
HCF = 50
LCM = 300
HCF x LCM = 50 x 300 = 15000
One number = 150
Other number = Product of H.C.F and L.C.M / one number

```
      100
150 | 15000
    - 150↓
      ---
        00
      - 0↓
      ---
         00
       - 0
       ---
          0
```

∴ the other number = 100
100 x 150 = 15000

4: The product of two numbers is given, that is 432
LCM = 72
HCF = Product of two numbers / L.C.M

```
      6
72 | 432
     -432
       0
```

∴ HCF = 6

5 The product of two numbers = 192000
H.C.F = 40
L.C.M = Product of two numbers / H.C.F

```
      480
40 | 19200
     -160↓
      320
     -320↓
       00
      - 0
        0
```

6- 3 | 12, 15, 18, 24, 36
2 | 4, 5, 6, 8, 12
2 | 2, 5, 3, 4, 6
2 | 1, 5, 3, 2, 3
3 | 1, 5, 3, 1, 3
5 | 1, 5, 1, 1, 1
1, 1, 1, 1, 1

LCM = 3 × 2 × 2 × 2 × 3 × 5

7-

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

LCM = 2×2×2×3×2×3×2×5 = 1440

This can be written as 1440^{+1}

8-

2	18, 36, 32, 27
3	9, 18, 16, 27
3	3, 6, 16, 9
2	1, 2, 16, 3
2	1, 1, 8, 3
2	1, 1, 4, 3
	1, 1, 2, 3

LCM = 3×3×2×2×2×2×3×2 = 864 or

It can be written as 867^{-3}