

Exercise 2-9

Q.1 Determine the LCM of the numbers given below

(i) 48, 60 (ii) 42, 63 (iii) 18, 17

(iv) 15, 30, 90 (v) 56, 65, 85 (vi) 180, 384, 144

(vii) 108, 135, 162 (viii) 28, 36, 45, 60

Solution (i) 48, 60, we have.

$$\therefore \text{LCM} = 2 \times 2 \times 3 \times 2 \times 2 \times 5 \\ = 240$$

2	48, 60
2	24, 30
3	12, 15
2	4, 5
2	2, 5
5	1, 5
	1, 1

(ii) 42, 63, we have

$$\text{LCM} = 2 \times 3 \times 3 \times 7 \\ = 126$$

2	42, 63
3	21, 63
3	7, 21
7	7, 7
	1, 1

(iii) 18, 17

$$\therefore \text{LCM} = 2 \times 3 \times 3 \times 17 \\ = 306$$

2	18, 17
3	9, 17
	3, 17

(iv) 15, 30, 90 , we have

$$\therefore \text{LCM} = 2 \times 3 \times 5 \times 3 = 90$$

2	15, 30, 90
3	15, 15, 45
5	5, 5, 15
3	1, 1, 3
	1, 1, 1

(v) 56, 65, 85

we have

2	56, 65, 85
2	28, 65, 85
2	14, 65, 85
5	7, 65, 85
	7, 13, 17

$$\therefore \text{LCM} = 2 \times 2 \times 2 \times 5 \times 7 \times 13 \times 17$$

$$= 61880$$

(vi) 180, 384, 144 , we have,

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

$$= 5760$$

2	180, 384, 144
2	90, 192, 72
2	45, 96, 36
2	45, 48, 18
3	45, 24, 9
3	15, 8, 3
2	5, 8, 1
2	5, 4, 1
	5, 2, 1

(vii) 108, 135, 162

$$\therefore \text{LCM} = 2 \times 3 \times 3 \times 3 \times 2 \times 5 \times 3 \\ = 1620$$

2	108, 135, 162
3	54, 135, 81
3	18, 45, 27
3	6, 15, 9
	2, 5, 3

(viii) 28, 36, 45, 60

$$\therefore \text{LCM} = 2 \times 2 \times 3 \times 5 \times 3 \times 7 \\ = 1260$$

2	28, 36, 45, 60
2	14, 18, 45, 30
3	7, 9, 45, 15
5	7, 3, 15, 5
3	7, 3, 3, 1
	7, 1, 1, 1