

EXERCISE 8(C)

1. (i) 8, 12, 24

8 = 8, 10, 24, 32
 12 = 12, 24, 36, 48
 24 = 24, 48, 72, 96

LCM = 24

(ii) 10, 15, 20

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

LCM = 60

(iv) 3, 6, 9, 12

3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36
 6 = 6, 12, 18, 24, 30, 36, 42, 48, ~~49~~
 9 = 9, 18, 27, 36, 45, 54, 63
 12 = 12, 24, 36, 48, 60,

LCM = 36

2. (i) 18, 24, 96

CDM $\begin{array}{l} 2 \mid 18, 24, 96 \\ 3 \mid 9, 12, 48 \\ 2 \mid 3, 4, 16 \\ 2 \mid 3, 2, 8 \\ 3, 1, 4 \end{array}$ LCM = $2 \times 3 \times 2 \times 2 \times 3 \times 4 = 288$

(ii) 100, 150, 200

$\begin{array}{l} 2 \mid 100, 150, 200 \\ 5 \mid 50, 75, 100 \\ 5 \mid 10, 15, 20 \\ 2 \mid 2, 3, 4 \\ 1, 3, 2 \end{array}$ LCM = $2 \times 5 \times 5 \times 2 \times 3 \times 2 = 1200$

(iii) 14, 21, 98

$\begin{array}{l} 7 \mid 14, 21, 98 \\ 2 \mid 2, 3, 14 \\ 1, 3, 7 \end{array}$ LCM = $2 \times 7 \times 3 \times 7 = 294$

(iv) 22, 21, 33

$\begin{array}{l} 3 \mid 22, 21, 33 \\ 11 \mid 22, 7, 11 \\ 2, 7, 1 \end{array}$ LCM = $3 \times 11 \times 2 \times 7 = 462$

(v) 34, 85, 51

$$17 \mid \begin{array}{l} 34, 85, 51 \\ 2, 5, 3 \end{array} \quad \text{LCM} = 17 \times 2 \times 5 \times 3 = 510$$

PFM (i) 18, 24, 96

$$\begin{aligned} 18 &= 2 \times 3 \times 3 &= 2 \times 3^2 \\ 24 &= 2 \times 2 \times 2 \times 3 &= 2^3 \times 3 \\ 96 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 &= 2^5 \times 3 \end{aligned}$$

$$\text{LCM} = 2^5 \times 3^2 = 288$$

$$\text{LCM} = 2 \times 2 \times 3 \times 3 \times 2 \times 2 \times 2 = 288$$

(ii) 100, 150, 200

$$\begin{aligned} 100 &= 2 \times 2 \times 5 \times 5 \\ 150 &= 2 \times 3 \times 5 \times 5 \\ 200 &= 2 \times 2 \times 2 \times 5 \times 5 \end{aligned}$$

$$\text{LCM} = 2 \times 2 \times 5 \times 5 \times 3 \times 2 = 1200$$

(iii) 14, 21, 98

$$\begin{aligned} 14 &= 2 \times 7 \\ 21 &= 3 \times 7 \\ 98 &= 2 \times 7 \times 7 \end{aligned}$$

$$\text{LCM} = 2 \times 3 \times 7 \times 7 = 294$$

(iv) 22, 21, 33

$$22 = 2 \times 11$$

$$21 = 3 \times 7$$

$$33 = 3 \times 11$$

$$\text{LCM} = 2 \times 11 \times 3 \times 7 = 462$$

(v) 34, 85, 51

$$34 = 2 \times 17$$

$$85 = 5 \times 17$$

$$51 = 3 \times 17$$

$$\text{LCM} = 17 \times 2 \times 5 \times 3 = 510$$

3. HCF = 50 LCM = 300

$$\text{One No.} = 150$$

$$\text{Other No.} = 150 \div (\text{HCF} \times \text{LCM})$$

$$= 150 \div 15000$$

$$= \underline{\underline{100}}$$

4. Product of 2 No. = 432

$$\text{LCM} = 72$$

$$\text{HCF} = 72 \div 432$$

$$= \underline{\underline{6}}$$

5. Product of 2 No. = 19,200

HCF = 40

LCF = $19,200 \div 40$
= 480

6. LCM of 12, 15, 18, 24 & 36 =

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

LCM = $2 \times 3 \times 2 \times 5 \times 3 \times 2 \times 3 = 1080$

7. LCM of 12, 18, 24, 32, 40 =

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

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

$1440 - 1 = 1439$

So the required answer is 1439

8. LCM of 18, 36, 32, 27 =

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

LCM = $2 \times 3 \times 3 \times 2 \times 8 \times 3$
= 864

$864 + 1 = 867$

So the required answer is 867.

REVISION EXERCISE (CH-8)

6. (i) LCM = 42

Therefore the ~~the~~ smallest no. divisible by 28 and 42 is 42

(ii) HCF = 28

And the largest no. divisible that can divide 28 and 42 completely.

1. (i) 108, 288 and 420

2	108	288	420	HCF = $2 \times 2 \times 3 \times 3 = 36$
2	54	144	210	
3	27	72	105	
3	9	24	35	
	3	8	35	