1. (i) 8 = 1, 8, 1, (2), 4, 8,
12 = 1, (2), 3, 4, 6, 12
24 = 1, (2), 3, 4, 6, 8, 12, 24

Ans = LCM = 2

Exercise - Revision

1. 2 | 108, 288, 420
2 | 54, 144, 210
3 | 27, 72, 105
 | 9, 24, 35

HCF = 12

Rough

	54
2	108
	10
	00

	144
2	288
	2
	08
	8
	0

	210
2	420
	4
	02

(ii)

2 | 36, 54, 138
3 | 18, 27, 69
6, 9, 23

LCM = 6

2. (i)

2 | 72, 80, 252
2 | 36, 40, 126
2 | 18, 20, 63
3 | 9, 10, 63
3 | 3, 10, 21
1, 10, 7

LCM = 2 × 2 × 2 × 3 × 3 × 1 × 10 × 7 = 504

(ii)

2 | 48, 66, 120
2 | 24, 33, 60
2 | 12, 33, 30
3 | 6, 33, 15
2, 11, 5

LCM = 2 × 2 × 2 × 3 × 2 × 11 × 5 = 2640

3. (i) True
(ii) True
(iii) True
(iv) True

4. Rough

36 ① × 1 = 36
36 ③ × 3 = 108
36 ② × 4 = 144
36 ④ × 8 = 288
36 ⑦ × 7 = 252
36 ⑤ × 5 = 180
36 ⑥ × 6 = 216

$$36 \overline{)12096}$$ quotient 336

12096
−108
0129
−108
0216
−216
000

Ans = 336

5. 1152
− 48
1104
+ 48
1152

Ans = 1104

6. 2 | 28, 42
7 | 14, 21
2, 3

Rough: 28 × 3 = 84

Ans = 84 is the LCM. Of the given numbers

7. (ii)

2	28, 42
7	14, 21
	2, 3

Ans = 14 is the H.C.F of the given numbers.

7.

2	140, 168
2	70, 84
7	35, 42
	5, 6

LCM = 840
HCF = 28

8.

2	108, 450
3	54, 225
3	18, 75
	6, 25

LCM = 2700
HCF = 18

Rough

84
2|168
−16↓
08
−8
0

35
3|70
−6↓
10
−10↓
0

54
2|108
−10↓
08
−8
0

42
2|84
−8↓
04
−4
0

225
3|450
−4↓
05
−45↓
00

28
10×5 (1)
140 (2)
×6
840

18
3|54
−3↓
24
−24
00

75
3|225
−21↓
015
−15
00

HW
25-06-2021

Exercise 8 (c)

2. (i) 2 | 18, 24, 96

2 | 9, 12, 48

2 | 9, 6, 24

3 | 9, 3, 12

3, 1, 4

$$LCM = 2 \times 2 \times 2 \times 3 \times 3 \times 1 \times 4$$

$$= 144 = 288$$

$$\begin{array}{r} 48 \\ 2\overline{)96} \\ -8\downarrow \\ \hline 16 \\ -16 \\ \hline 00 \end{array}$$

2 | 100, 150, 200

2 | 50, 75, 100

5 | 25, 75, 50

5, 15, 10

~~LCM = 2 × 2 × 5 × 5 × 15 × 10 =~~

2. $100 = 2 \times 2 \times 5 \times 5 = 2^2 \times 5^2 = (2 \times 2) \times (5 \times 5)$

$150 = 2 \times 3 \times 5 \times 5 = 2^1 \times 3^1 \times 5^2$

$200 = 2 \times 2 \times 2 \times 5 = 2^3 \times 5^1 = (2 \times 2 \times 2) \times (5)$

2 | 100	2 | 150	2 | 200
2 | 50	3 | 75	2 | 100
5 | 25	5 | 25	2 | 50
5	5	5 | 25
		5

LCM = 600

Rough

2 × 2 × 5 × 5 × 2 × 3 × 5 × 5 × 2 × 2 × 2 × 5 × 5

20 × 5 = 100

100 × 2 = 200

200 × 3 = 600

(iii) 14, 21, 98

$14 = 2 \times 7 = 2^1 \times 7^1$
$21 = 3 \times 7 = 3^1 \times 7^1$
$98 = 2 \times 7 \times 7 = 2^1 \times 7^2$

2 | 14
7

2 | 14, 21, 98
7 | 7, 21, 49
1, 3, 7

3 | 21
7

2 | 98
7 | 49
7

LCM = $2 \times 7 \times 1 \times 3 \times 7 = 294$

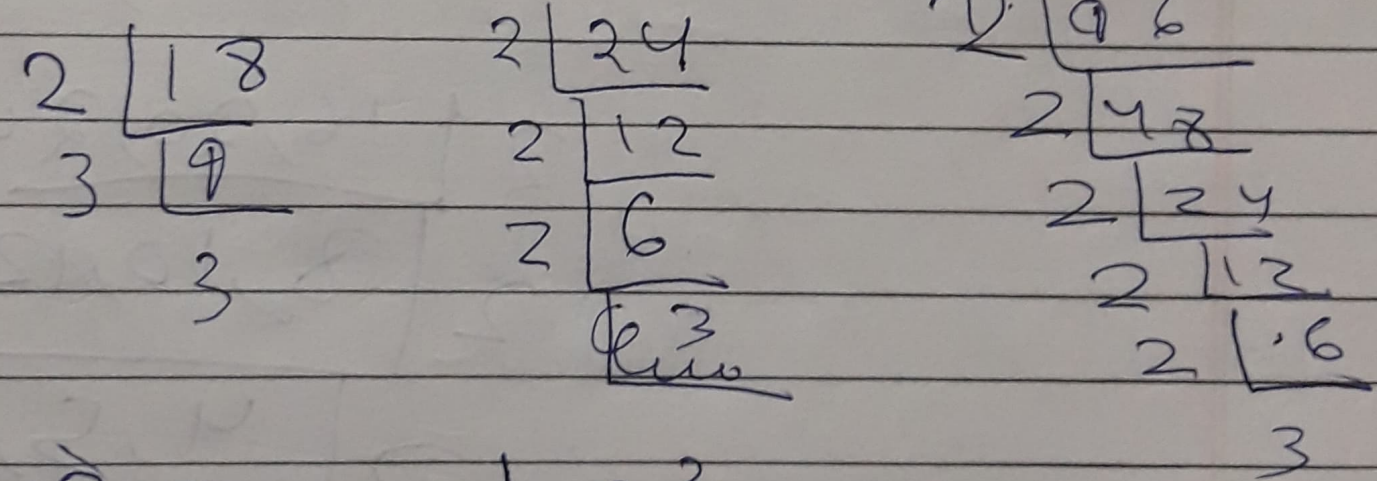
49
×2
98

21
×14
84
+21
294

(iv) ~~22, 121,~~ 33

$22 = 2 \times 11 = 2^1 \times 11^1$
$121 = 11 \times 11 = 11^2$
$33 = 3 \times 11 = 3^1 \times 11 = 6 \times 121$
$= 726$

Find the LCM of 18, 24, 96 by Prime factor method.



(V) $18 = 2 \times 3 \times 3 = 2^1 \times 3^2$

$24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3^1$

$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 = 2^5 \times 3^1$

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

$= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$= 32 \times 9 = 288$

2, 5, 3

LCM = 2 × 3 × 5 × 17 = 510

3. HCF = 50, LCM = 300

one number = 150

other number =

$$\text{HCF} \times \text{LCM} = \text{one number} \times \text{other number}$$

$$50 \times 300 = 150 \times \text{other number}$$

$$\text{other number} = \frac{50 \times 300}{150}$$

$$= 100$$

300
×150
000
1500
+3000
18000
-150
150
0

1020
150 | 18000
-150
030
-0
300
-300
000

150 ⑰
×2
300

1020
+150
1170

4. Product of two numbers
= 432

LCM = 72

HCF = $\frac{\text{Product of two numbers}}{\text{LCM}}$

$= \frac{432}{72}$

$= \frac{432}{72}\ 6$

$= 6$

5. Product of two numbers
= 19, 200

HCF = 40

LCM = ?

$\text{LCM} = \frac{\text{Product of two number}}{\text{HCF}}$

LCM = 480

$\frac{19200}{40} = 480$

6. Find the smallest number ~~is 432 and the~~ which when divided by 12, 15, 18, 24 and 36 leaves no remainder?

Ans-

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

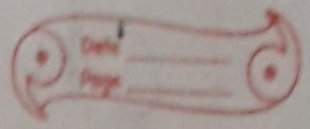
~~LCM = 2×2 × 3 × 1 × 5 × 3 × 2 × 3 =~~

LCM = 2×2×3×3×1×5×1×2×1 = 360

~~360 × 4 = 1080~~

36 × 5 = 180
180 × 2 = 360

(7) Find the smallest number which when increased by 1 is exactly divisiblity 12, 18, 24, 32, 40.



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 = 2 x 2 x 2 x 3 x 1 x 3 x 1 x 4 x 5

=

72

x 4

288 ④

x 5

1440 ①

- 1

1439