CW
28.6.21

## Revision Exercise (Ch-1)

(3) State True or False (Give an example in support of your ans):-

i) H.C.F of two co prime no.s is 1. True.

Eg-
5 and 7

$$5\overline{)7}\,(1 \quad \text{H.C.F of 5 and 7 is 1.}$$
$$-5$$
$$2\overline{)5}\,(2$$
$$-4$$
$$1\overline{)2}\,(2$$
$$-2$$
$$0$$

ii) H.C.F of two co-prime no.s is 1. True

Eg- co-prime no.s have no common factors except 1.

3 and 4

$$3\overline{)4}\,(1 \quad \text{HC.F} = 1.$$
$$-3$$
$$1\overline{)3}\,(3$$
$$-3$$
$$0$$

iii) hCM of two prime no.s is equal to their product.
True

Ex- 3, 5

LCM = 3 × 5
= 15.

iv) LCM of two co-prime no.s is equal to their product.
True

Ex- 2 | 7, 8
2 | 7, 4
7, 2

LCM = 2 × 2 × 2 × 7
= 8 × 7
= 56.

(2) i) Find the HCF of 108, 288, 420.

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

HCF = 2 × 2 × 3
= 12.

ii) Find the HCF and LCM of 15 and 25.

3 | 15, 25 | 5 | 25
5 | 5

LCM:
15 = 3 × 5
25 = 5 × 5
= $5^2$

LCM = $3 \times 5^2$
= 3 × 5 × 5
= 75.

HCF:
15 = 3 × 5
25 = 5 × 5
HCF = 5.

iii) Find HCF of: 36, 54 and 138.

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

HCF = 2 × 3
= 6

(2) i) Find the LCM of 72, 80 and 252.

| | |
|---|---|
| 2 | 72, 80, 252 |
| 2 | 36, 40, 126 |
| 3 | 18, 20, 63 |
| 3 | 6, 20, 21 |
| 2 | 2, 20, 7 |
| 2 | 1, 10, 7 |
| | 1, 5, 7 |

LCM = 2 × 2 × 3 × 3 × 2 × 2 × 7 × 5
= 5040.

ii) Find the LCM of 48, 66, 120.

| | |
|---|---|
| 2 | 48, 66, 120 |
| 2 | 24, 33, 60 |
| 3 | 12, 33, 30 |
| 2 | 4, 11, 10 |
| | 2, 11, 5 |

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

(4) The product of ~~two~~ two no.s is 12096 and their H.C.F is 36. Find their LCM.

Ans- Product of two no.s = 12096
HCF = 36

Some of

HCF × LCM = Product of two no.
⇒ LCM = Product of two no.s / HCF
⇒ LCM = 12096 / 36 = 4032 / 12 = 336
= 4032 / 12
= 336.

(5) The product of the H.C.F and L.C.M of two no.s is 1152. If one no. is 48, find the other one.

Ans- The product of the H.C.F and L.C.M = 1152
One no. = 48.

The product of the no.s = The product of their H.C.F and L.C.M
⇒ 48 × The other no. = 1152
⇒ The other no. = 1152 / 48 = 24
48 16 24

⇒ The other no. = 24.

(7) i) Find the smallest no. that is completely divisiby by 36 and 42

hcm of 36 and 42.

| | |
|---|---|
| 2 | 36, 42 |
| 3 | 18, 21 |
| 2 | 6, 7 |
| | 3, 7 |

hcm = 2 × 3 × 2 × 3 × 7
= 252

ii) Find the largest no. that can divide 28 and 42 completely -

HCF of 28 and 42.

| | |
|---|---|
| 2 | 28, 42 |
| 7 | 14, 21 |
| | 2, 3 |

HCF = 2 × 7
= 14.

(8) Find the H.CF of 108 and 450 and use the HCF obtained to find the hcm of the given no.s.

| | |
|---|---|
| 3 | 108, 450 |
| 3 | 36, 150 |
| 2 | 12, 50 |
| | 6, 25 |

HCF = 3 × 3 × 2
= 18

Product of no.s = HCF * LCM

→ hcm = $\frac{\text{Product of no.s}}{\text{HCF}}$

= $\frac{36}{108} \times \frac{450}{6}$

= $\frac{36^{6} \times 450}{6_{1}} = \frac{6 \times 450}{1} = 2700$

∴ The LCM of 108 and 450 is 2700 and the HCF is 18.

⑦ Find the LCM of 140 and 168. Use the LCM obtained to find HCF of the given no.s.

Ans -

| | |
|---|---|
| 2 | 140, 168 |
| 2 | 70, 84 |
| 7 | 35, 42 |
| 2 | 5, 6 |
| | 5, 3 |

LCM = $2 \times 2 \times 7 \times 2 \times 5 \times 3$
= 840.

HCF = $\frac{\text{Product of two no.s}}{\text{LCM.}}$

$= \frac{140 \times 168}{840}$ (28, 6)

$= 28$

∴ The LCM of 140 and 168 is 840 and the HCF is 28.