H.W

H.C.F AND L.C.M

Revision Exercise [ch-8]

(1) Find the HCF

i) 108, 288, 420

2 | 108, 288, 420
2 | 54, 144, 210
3 | 27, 72, 105
9, 24, 35
5 | 5, 8, 35
2 | 3, 8, 7
2 | 3, 4, 7
3, 2, 7

HCF = 2 x 2 x 3 = 12

ii) 36, 54, 138

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

HCF = ~~2 x 6~~ = 2 x 3 = 6

(2) Find the LCM

i) 72, 80, 252

2 | 72, 80, 252
2 | 36, 40, 126
2 | 18, 20, 63
3 | 9, 10, 63
3 | 3, 10, 21
2 | 1, 10, 7
1, 5, 7

LCM = 2 x 2 x 2 x 2 x 3 x 3 x 5 x 7 = 5040

ii) 48, 66, 120

2 | 48, 66, 120
3 | 24, 33, 60
2 | 8, 11, 20
2 | 4, 11, 10
2, 11, 5

LCM = 2x2x2x2x3x5x11 = 2640

③ True or False

i) HCF of two prime no is 1. True

Eg- 1 | 11, 23
11, 23

HCF = 1

1 | 41, 31
41, 31

HCF = 1

ii) HCF of two co-prime number is 1. True

Co-prime - which have no common prime factor

Eg- 3 | 39, 16
13 | 13
1

2 | 16
2 | 8
2 | 4
2 | 2
1

HCF = 1

1 | 5, 9
5, 9

HCF = 1

iii) LCM of two prime number is equal to their product = True

Eg- 1 | 3, 7
3, 7

LCM = 7x3x1 = 21

1 | 11, 19
11, 19

LCM = 11x19x1 = 209

iv) LCM of two co-prime number is equal to their product = True

Eg- 1 | 5, 9
5, 9

LCM = 5 × 9 × 1 = 45

1 | 3, 5
3, 5

LCM = 1 | 11, 9
11, 9

= 11 × 9 × 1 = 99

(4) Ans Product of two numbers = 12096
HCF = 36
LCM = ?

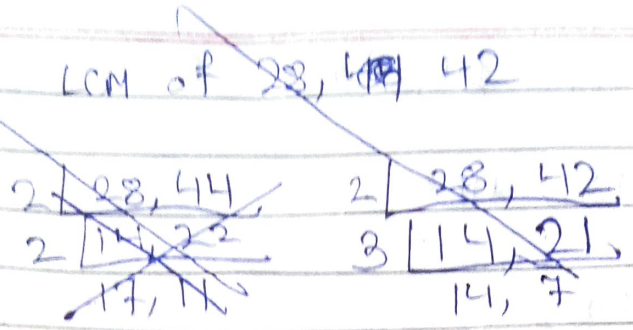
LCM × HCF = Product of two numbers

∴ LCM = Product of two no ÷ HCF
= 12096 ÷ 36 = 336
∴ LCM = 336

(5) Ans Product of HCF and LCM = 1152
one number = 48
other number = ?

other number = Product of HCF & LCM ÷ one number
= 1152 ÷ 48 = 24
∴ Another number = 24

(6) i) Ans LCM of 28, 42



ii) Ans LCM of 28, 42

Smallest number that is completely divisible = LCM

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

LCM = 2 x 7 x 2 x 3 = 84

ii) Largest number that can divide = HCF

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

HCF = 2 x 7 = 14

(7) LCM of 140, 168

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

LCM = 2 x 2 x 2 x 3 x 5 x 7 = 840

HCF x LCM = Product of two number

HCF = ? HCF = $\frac{140 \times 168}{840}$ = 28 ∴ HCF = 28

LCM = 840 LCM = 840

~~Product of two number = 140 x 168 = 23570~~

~~2 3 5 7 0~~ ÷ 840 =

8) HCF of 108, 450

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

HCF = 2 × 3 × 3 = 18

HCF × LCM = Product of two numbers

HCF = 18 LCM = $\frac{108 \times 450}{18}$ = 2700

LCM = ? ~~2700~~

∴ LCM = 2700
HCF = 18