Home assignment

→ Revision Exersise (Chapter 8)

1. HCF of-

i) 108, 288 and 420

→

$108 = 2 \times 2 \times 3 \times 3 \times 3$

$288 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$420 = 2 \times 2 \times 3 \times 5 \times 7$

HCF = $2 \times 2 \times 3$

$= 12$

2	108
2	54
3	27
3	9
	3

2	288
2	144
2	72
2	36
2	18
3	9
	3

2	420
2	210
3	105
5	35
	7

iii) 36, 54, 138

36, 54

36) 54 (1
36
18) 36 (2
36
0

HCF of 36, 54
= 18

18) 138 (7
126
12) 18 (1
12
6) 12 (2
12
0

HCF of 18, 138
= 6

HCF = 6

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Prime factor Method (LCM)

2. (i) 72, 80, 252

$72 = 2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$

$80 = 2 \times 2 \times 2 \times 2 \times 5 = 2^4 \times 5$

$252 = 2 \times 2 \times 3 \times 3 \times 7 = 2^2 \times 3^2 \times 7$

LCM $= 2^4 \times 3^2 \times 5 \times 7$

(ii) 48, 66 and 120

$48 = 2 \times 2 \times 2 \times 2 \times 3 = 2^4 \times 3$

$66 = 2 \times 3 \times 11 = 2 \times 3 \times 11$

$120 = 2 \times 2 \times 2 \times 3 \times 5 = 2^4 \times 3 \times 5$

LCM $= 2^4 \times 3 \times 11 \times 5$

$= 2 \times 2 \times 2 \times 2 \times 3 \times 11 \times 5$

$= 2640$

3. true or false (give example)

i) HCF of two prime no. is 1. True

Ex - 2 and 3
are prime no.
there HCF ~~eq~~ = $2 = 2 \times 1$
$3 = 3 \times 1$
HCF = 1

ii) HCF of two co-prime no. is 1. True
15 and 16
HCF = 1

iii) LCM of 2 prime no. is equal to their product. True
Ex -
2 and 11
= 7 x 11 = 77 and 77 is also the LCM of both

iv) LCM of two co-prime numbers is equal to their product. True
Ex -
27 and 64 are co-prime no.
27 x 64 = 1728 and it is also the LCM of booth.

4 Product two no. is 12096
HCF = 36
LCM =
Product of 2 no. = HCF x LCM
So, $\frac{\text{Product of 2 no.}}{\text{HCF}}$ = LCM

$\therefore \frac{12096}{36} = 336$: LCM

5. Product of HCF and LCM = 1152

One no. = 48

other no. = ?

Product of HCF and LCM
= the product of 2 no.s

∴ HCF × LCM =
of 2 = 1152

Product ~~One~~ no.s = 48 × ? = 1152

$$= \frac{1152}{48} = 24$$

Other no = 24

Q6 (i) The smallest number which is completely divisible by 28 and 42 is their LCM

=

2	28, 42
7	14, 21
	2, 3

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

$= 84$

7 (ii)

larger no. divided by 28 and 42 is HCF

HCF

$= 28 = (2) \times 2 \times (7)$

$42 = (2) \times 3 \times (7)$

$HCF = 2 \times 7$

$= 14$

2	28
2	14
	7

2	42
3	21
	7

7. LCM of 140 and 168

=

2	140, 168
2	70, 84
3	35, 42
7	35, 14
	5, 2

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

$= 840$

Product of 2 nos. is
= HCF x LCM

~~Prod~~ HCF = $\frac{\text{Product of 2 nos.}}{\text{LCM}}$

= $\frac{140 \times 168}{840}$

= 28

8. 108, 450

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

HCF = $2 \times 3 \times 3$

$= 18$

Product of the no.s

= HCF x LCM

$108 \times 450 = 18 \times LCM$

$LCM = \frac{108 \times 450}{18} = 108 \times 25$

$= 2760$