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VI B

ch-8 Revision exercise

1. Find the hcf of: (i) 108, 288 and 420

3
108 | 420
324 | 1
96 | 108
96 | 8
12 | 96
96
0

hcf = 12

(ii) 36, 54 and 136

3
36 | 136
108 | 1
28 | 36
28 | 3
8 | 28
24 | 2
4 | 8
8
0

13
4 | 54
4
14
12
2

2
54 | 136
108 | 1
28 | 54
28 | 1
26 | 28
26 | 13
2 | 26
2
0

Hcf = 2

2. Lcm (i) 72, 80 and 252

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

$2 \times 2 \times 3 \times 3 \times 2 \times 1 \times 10 \times 7$
$= 5040$

(ii) 48, 66 and 120

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

$2 \times 3 \times 2 \times 2 \times 2 \times 11 \times 5 = 2640$

3. State true or false (Give an example in support of your answer in each case).

(i) H.C.F. of two prime numbers is 1. True

$2 = 1 \times 2$
$5 = 1 \times 5$
Hcf = 1

(ii) H.C.F. of two co-prime numbers is 1. False

~~$7 = 1 \times 7$~~
~~$11 = 1 \times 11$~~ ~~Hcf = 1~~

$18 = 3 \times 6$
$20 = 4 \times 5$
hcf = 1

(iii) Lcm of two prime numbers is equal to their products. True

2 = 1 × 2
4 = 2 × 2
2 = 1 × 2
3 = 1 × 3

2 = 1 × 2
3 = 1 × 3

2 × 2 × 1 = 4

= 1 × 2 × 3 = 6

2 × 3 = 6

(iv) Lcm of two-coprime numbers is equal to their product. True

10 = 2 × 5
21 = 3 × 7

2 | 10, 21
5, 21

2 = 1 × 2
3 = 1 × 3

lcm = 2 × 3 × 1 = 6

2 × 3 = 6

4. The product of two numbers is 12096 and their hcf is 36. Find their lcm.

Product of HCF and lcm = Product of two numbers

hcf × lcm = Product of two numbers

36 × ? = 12096

= $\frac{12096}{36}$ = 336

14 3

5. The product of the hcf and lcm of two numbers is 1152. If one number is 48 then find the other one.

hcf × lcm = 1152 = $\frac{1152}{48}$ = 24

6. (i) Find the smallest number that is completely divisible by 28 and 42.

$$\begin{array}{r|l} 2 & 28, 42 \\ 2 & 14, 21 \\ 7 & 7, 21 \\ & 1, 3 \end{array}$$

lcm = 2×2×7×1×3
= 84

(ii) Find the largest number that can divide 28 and 42 completely.

$$\begin{array}{l} 28 \overline{)42(} 1 \\ \quad 28 \\ \hline (14) \overline{)28(} 2 \\ \quad 28 \\ \hline \quad 0 \end{array}$$

7. Find the lcm of 140 and 168. Use the lcm obtained to find the hcf of the given numbers.

Ans=

$$\begin{array}{r|l} 2 & 140, 168 \\ 2 & 70, 84 \\ 7 & 35, 42 \\ & 5, 6 \end{array}$$

2×2×7×5×6 = ~~720~~ 840

lcm = 720 A = 140 B = 168

~~Product of~~

A × B = Hcf × Lcm

140 × 168 = Hcf × 720

Hcf × 720 = 140 × 168

hcf = 2...

8. Find th...
decreased...
and os...
the l...

hcf = ...

A × ...
168 × ...

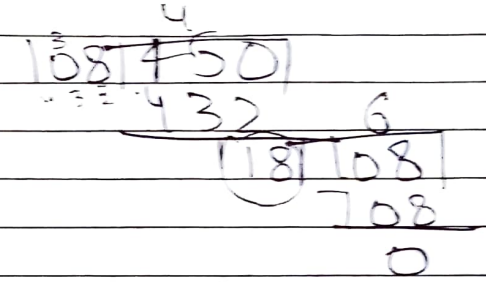
3. The ...
So...
find ...

A × ...

So...
so...

hcf = 28

8. Find the ~~smallest number which on being decreased by~~ hcf of 108 and 450 and use the hcf obtained to find the lcm of the given numbers.



hcf = 18

A x B = hcf x lcm

108 x 450 = 18 x 2700

lcm = 2700

Evaluation question

3. The Hcf and the lcm of two numbers are 50 and 300 respectively. If one is 150, find the other one.

A x B = Hcf x lcm

50 x 300 = 150 x other number.

so, $\frac{15000}{150} = 100$

other number = 100