STD – 10 MATHS

CHAPTER - 1

**REAL NUMBER** 

EXERCISE - 1.2 Q-2

2. Find the LCM and HCF of the following pairs of integers and verify that LCM  $\times$  HCF = product of the two numbers.

(i) 26 and 91

Expressing 26 and 91 as product of its prime factors, we

get,

2	<b>26</b>
13	13
	1

7	91
13	13
	1

$$26 = 2 \times 13 \times 1$$

$$91 = 7 \times 13 \times 1$$

Therefore, LCM (26, 91)

$$= 2 \times 7 \times 13 \times 1$$

= 182

And HCF (26, 91) = 13

Verification Now, product of 26 and 91

$$= 26 \times 91$$

### **And Product of LCM and HCF**

 $= 182 \times 13$ 

= 2366

Hence, LCM  $\times$  HCF = product of the 26 and 91.

### (ii) 510 and 92

Expressing 510 and 92 as product of its prime factors, we get,

2	<b>5</b> 10
3	<b>255</b>
5	85
17	17
	1

2	92
2	46
23	23
	1

$$510 = 2 \times 3 \times 17 \times 5 \times 1$$

$$92 = 2 \times 2 \times 23 \times 1$$

**Therefore, LCM (510, 92)** 

$$= 2 \times 2 \times 3 \times 5 \times 17 \times 23$$

= 23460

And HCF (510, 92) = 2

Verification Now, product of 510 and 92

 $= 510 \times 92$ 

= 46920

### **And Product of LCM and HCF**

- $= 23460 \times 2$
- = 46920

Hence, LCM  $\times$  HCF = product of the 510 and 92.

### (iii) 336 and 54

## Expressing 336 and 54 as product of its prime factors, we get,

2	<b>3</b> 36
2	168
2	84
2	42
3	21
7	7
	1

2	<b>5</b> 4
3	27
3	9
3	3
	1

$$336 = 2 \times 2 \times 2 \times 2 \times 7 \times 3 \times 1$$

$$54 = 2 \times 3 \times 3 \times 3 \times 1$$

**Therefore, LCM(336, 54)** 

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

= 3024

And HCF(336, 54)

$$=2\times3$$

### Verification Now, product of 336 and 54

- $= 336 \times 54$
- = 18,144

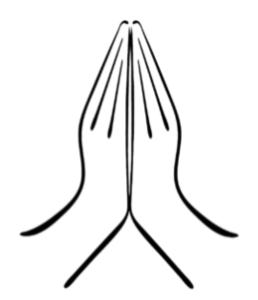
### **And Product of LCM and HCF**

- $= 3024 \times 6$
- = 18,144

Hence, LCM × HCF

= product of the 336 and 54.

### Thanks



# For watching