

Class 10 Mathematics - Real Numbers

Name: _____

Date: _____

Advanced Worksheet 1

Questions

1. Find the least number which is exactly divisible by 12, 15 and 20.
2. Three school bells ring at intervals of 18 minutes, 24 minutes and 30 minutes. If they ring together at 8:00 a.m., when will they ring together again?
3. Find the LCM of 72, 120 and 180 using prime factorisation.
4. A classroom has rows of 18 chairs and another classroom has rows of 24 chairs. What is the smallest number of chairs that can be arranged in complete rows in both classrooms?
5. Explain why LCM is used in scheduling problems.
6. Find the least number that leaves remainder 5 when divided by both 35 and 45.

Answer Key

1.

$$12 = 2^2 \times 3$$

$$15 = 3 \times 5$$

$$20 = 2^2 \times 5$$

$$\text{LCM} = 2^2 \times 3 \times 5 = 60$$

2.

$$18 = 2 \times 3^2$$

$$24 = 2^3 \times 3$$

$$30 = 2 \times 3 \times 5$$

$$\text{LCM} = 360 \text{ minutes}$$

$$360 \text{ minutes} = 6 \text{ hours}$$

They will ring together again at 2:00 p.m.

3.

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

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

$$180 = 2^2 \times 3^2 \times 5$$

$$\text{LCM} = 2^3 \times 3^2 \times 5 = 360$$

4.

$$\text{LCM}(18,24)$$

$$= 72$$

5.

LCM gives the first common occurrence of repeating events.

6.

$$\text{LCM}(35,45) + 5$$

$$= 315 + 5$$

$$= 320$$

