

## Class 10 Mathematics - Real Numbers

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Medium Worksheet 4

#### Questions

1. Check whether  $6^n$  can end with the digit 0 for any natural number  $n$ .
2. Check whether  $4^n$  can end with the digit 0 for any natural number  $n$ .
3. Explain why  $7 \times 11 \times 13 + 13$  is a composite number.
4. Explain why  $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$  is a composite number.
5. Sonia takes 18 minutes to complete one round of a circular track and Ravi takes 12 minutes. After how many minutes will they meet again at the starting point?
6. Which concept is used to solve Question 5?

#### Answer Key

1. No

Because  $6^n = 2^n \times 3^n$  and does not contain factor 5.

2. No

Because  $4^n = 2^{2n}$  and does not contain factor 5.

- 3.

$$7 \times 11 \times 13 + 13$$

$$= 13(7 \times 11 + 1)$$

$$= 13 \times 78$$

Therefore composite.

4.

$$7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$$

$$= 5(7 \times 6 \times 4 \times 3 \times 2 \times 1 + 1)$$

Therefore divisible by 5 and composite.

5.

$$\text{LCM}(18,12)$$

$$= 36 \text{ minutes}$$

6. LCM

