



10th Class Maths Worksheet

Maximum Marks: 50

Time: 1 Hour 30 Minutes

General Instructions:

- All questions are compulsory.
- Use of calculator is not allowed.
- Marks are indicated against each question.
- Show all necessary steps in calculations.

Q1. Find the HCF of 60 and 72 using Euclid's division algorithm.

Q2. Express 0.142857 as a rational number in the form $\frac{p}{q}$.

Q3. Prove that $\sqrt{3}$ is an irrational number.

Q4. Show that any positive odd integer is of the form $6q+1$, $6q+3$, or $6q+5$, where q is an integer.

Q5. Show that any positive odd integer is of the form $6q+1$, $6q+3$, or $6q+5$ for some integer q .

Q6. Use the Euclidean algorithm to find the HCF of 252 and 198.

Q7. Solve the following system of equations using the substitution method.

$$\begin{aligned}x+y &= 7 \\ x-y &= 1\end{aligned}$$

Q8. Solve the system of equations using the elimination method:

$$\begin{aligned}3x+4y &= 10 \\ 2x-4y &= -2\end{aligned}$$

Q9. The cost of 2 pens and 3 pencils is ₹12, and the cost of 4 pens and 6 pencils is ₹24. Form the pair of linear equations and solve graphically.

Q10. A boat takes 2 hours to travel 20 km downstream and 4 hours to travel the same distance upstream. Find the speed of the boat in still water and the speed of the current.

Q11. The angles of a triangle are in the ratio 2:3:5. Find the angles using a linear equation.

Q12. A boat covers 32 km upstream and 36 km downstream in 7 hours. It also covers 40 km upstream and 48 km downstream in 9 hours. Find the speed of the boat in still water and that of the stream.

Q13. The marks obtained by 5 students are: 45, 50, 55, 60, and 65. Find the mean, median, and mode.

Q14. Find the distance between the points A(3, 4) and B(7, 1).

Q15. How many terms of the AP: 3, 6, 9, 12, are needed to make the sum 225?