Grade 10 - Final Exam

Practice Paper 2

Mathematics

Based on Maharashtra Board Syllabus (NEP 2025-26) - Full Syllabus

Instructions:

- Duration: 2.5 hours
- Maximum marks: 75
- All questions are compulsory
- Show all your working clearly

Section A: Linear Equations in Two Variables (10 Marks)

1. Solve the following pair of linear equations by elimination method: **[4 marks]**

3x - 5y = 1

x - y = 1

Solution: x = _____, y = _____

2. Solve the following pair of linear equations by substitution method: **[6 marks]**

x + 3y = 6

$2x - y = 5$

Solution: x = _____, y = _____

Section B: Quadratic Equations (10 Marks)

3. Find the roots of the following quadratic equation by factorization: **[4 marks]**

$x^2 + 8x + 15 = 0$

Roots: x = _____, x = _____

4. Find the roots of the quadratic equation using the quadratic formula: **[6 marks]**

$x^2 - 6x + 8 = 0$

Roots: x = _____, x = _____

Section C: Arithmetic Progression (10 Marks)

5. Find the 20th term of the AP: 10, 15, 20, 25, ... **[4 marks]**

20th term (a_{20}) = _____

6. Find the sum of the first 18 terms of the AP: 5, 9, 13, 17, ... **[6 marks]**

Sum (S_{18}) = _____

Section D: Probability (10 Marks)

7. A box contains 8 red, 5 blue, and 7 green marbles. A marble is drawn at random. What is the probability of drawing: **[4 marks]**

a) A red marble? = _____

b) A blue marble? = _____

8. A die is rolled once. What is the probability of getting: **[6 marks]**

a) A number greater than 3? = _____

b) A number less than or equal to 2? = _____

c) An even number? = _____

Section E: Statistics (10 Marks)

9. Find the mean of the following data: 20, 25, 30, 35, 40. **[4 marks]**

Mean = _____

10. The following data shows the marks obtained by 6 students in a test: 70, 85, 70, 90, 85, 70. Find the mode and median of the data. **[6 marks]**

Mode = _____

Median = _____

Section F: Geometry and Trigonometry (25 Marks)

11. In a right-angled triangle PQR, right-angled at Q, if PQ = 12 cm and QR = 5 cm, find the length of the hypotenuse PR. **[5 marks]**

PR = _____ cm

12. Find the value of: **[5 marks]**

a) cos 30° + sin 60° = _____

b) tan 60° × cot 60° = _____

13. In the given figure, if XY || QR, PX = 3 cm, XQ = 6 cm, and PY = 2 cm, find the length of YR. **[5 marks]**

[Imagine a triangle PQR with a line segment XY parallel to QR, where X is on PQ and Y is on PR.]

YR = _____ cm

14. Solve the following: **[10 marks]**

a) Find the distance between the points C(-3, 5) and D(1, 8).

Distance CD = _____ units

b) Find the coordinates of the point that divides the line segment joining the points A(1, -3) and B(4, 6) in the ratio 2:1 internally.

Coordinates of the dividing point = (_____, _____)

End of Practice Paper 2