

FA-1 SAMPLE PAPER 1

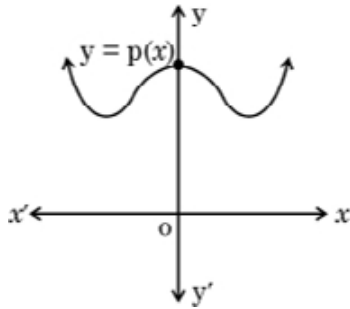
Class 10 - Mathematics

Time Allowed: 40 minutes

Maximum Marks: 21

Section A

1. The graph of $y = p(x)$ is shown in the figure for some polynomial $p(x)$. The number of zeroes of $p(x)$ is/are: [1]



- a) 2
b) 3
c) 0
d) 1
2. The pair of equations $ax + 2y = 9$ and $3x + by = 18$ represent parallel lines, where a, b are integers, if: [1]
- a) $a = b$
b) $2a = 3b$
c) $3a = 2b$
d) $ab = 6$
3. Write the standard form of a quadratic polynomial with real coefficients. [1]
4. Find a quadratic polynomial whose zeroes are 3 and -5. [1]

Section B

5. Find the LCM and HCF of 92 and 510, using prime factorisation. [2]
- OR
- Find the LCM and HCF of the pairs of integers 26 and 91 and verify that $\text{LCM} \times \text{HCF} = \text{product of the two numbers}$.
6. Find the greatest number which divides 85 and 72 leaving remainder 1 and 2 respectively. [2]
7. Find the zeroes of $x^2 - 2x - 8$ and verify the relationship between the zeros and the coefficients. [2]
8. Solve for x and y : $x + y = 6, 2x - 3y = 4$ [2]

Section C

9. Prove that $\sqrt{5}$ is irrational. [3]
10. Determine whether the pair of equations $3x + y + 1 = 0, 2x - 3y + 8 = 0$ is consistent. If so, solve them graphically. [3]
11. Five years ago, Amit was thrice as old as Baljeet. Ten years hence, Amit shall be twice as old as Baljeet. What are their present ages? [3]

OR

A part of monthly hostel charge is fixed and the remaining depends on the number of days one has taken food in the mess. When Swati takes food for 20 days, she has to pay Rs 3,000 as hostel charges whereas Mansi who takes food for 25 days pays Rs 3,500 as hostel charges. Find the fixed charges and the cost of food per day.