

CLASS X

GUESS PAPER-03

MATHS

General Instructions: *i. All questions are compulsory.*

SECTION-A

1. Write maximum number of zeroes for $p(x) = x^3 + 3x^2 - 3x + 1$

SECTION-B

2. Find the sum of all 2 digit positive numbers divisible by 3.

3. Find HCF of 455 and 84 by Euclid division lemma.

SECTION-C

4. Prove that $5 - \sqrt{3}$ is an irrational number

5. Find all the zeroes of polynomial, $p(x) = x^4 - 5x^3 + 2x^2 + 10x - 8$ if its two zeroes are $\sqrt{3} + 1$ and $\sqrt{3} - 1$

OR

Find zeroes of and verify the relation between the zeroes and the coefficients: $3\sqrt{2}x^2 + 13x + 6\sqrt{2}$

6. Solve for x and y :

$$ax - by = a^2 - b^2 \text{ and } \frac{x}{a} + \frac{y}{b} = 2$$

7. Find the value of k for which the equation $x^2 + k(2x + k - 1) + 2 = 0$ has real and equal roots

OR Solve the following equation for x: $\frac{1}{a} + \frac{1}{b} + \frac{1}{x} = \frac{1}{a+b+x}$

8. If sum of first n terms of an A.P is $5n^2 - 3n$ find the A.P and also find its sixteenth term.

SECTION-D

9. A Shopkeeper buys a number of books for Rs. 1200. If he had bought 10 more books for the same amount, each book would have cost Rs 20 less. How many books did he buy?

10. A boat travels 24 km upstream and 28 km downstream in 6 hours. If it travel 30 km upstream and 21 km downstream in 6 hours and 30 minutes. Find the speed of boat in still water.