

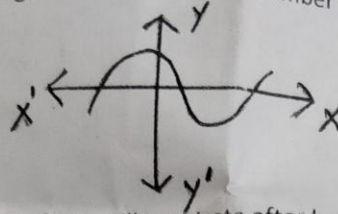
NAME _____
CLASS X SEC _____

MATA GUJRI PUBLIC SCHOOL
FIRST TERM EXAMINATION (2017-18)
SUBJECT: MATHEMATICS (SET A)

MM:50
TIME:2 HRS
24.6.17
(1X3=3)

SECTION A

Q1. The graph of $y=p(x)$ is given below. Find the number of zeroes of the polynomial $p(x)$



Q2. The decimal expansion of $\frac{7}{125}$ will terminate after how many places of decimal?

Q3. Write the coordinates of the point such that the line $5x - 3y = 18$ meets y axis.

SECTION B

Q4. Find a quadratic polynomial whose zeroes are $3 + \sqrt{2}$ and $3 - \sqrt{2}$.

Q5. Show that any odd positive integer is of the form $4q + 1$ or $4q + 3$, where q is some integer.

Q6. Find the value of 'k' for which the given pair of linear equations have no solution.

$$kx + 3y = k - 2 \quad \text{and} \quad 12x + ky = k.$$

Q7. Explain why $17 \times 11 \times 2 + 17 \times 11 \times 5$ is a composite number.

SECTION C

Q8. Find the H.C.F. and L.C.M. of 30, 72 and 432 using prime factorisation method.

Q9. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.

Q10. Find the solution of the following pair of equations by cross multiplication method.

$$2x + 3y = 17 \quad \text{and} \quad 3x - 2y = 6.$$

Q11. Draw the graph of the equations $4x - 5y = 20$ and $3x + 5y = 15$. Determine the coordinates of the vertices of triangle formed by these lines and y-axis.

Q12. Prove that $6 - \sqrt{2}$ is an irrational number.

SECTION D

Q13. Use Euclid's Division Lemma to show that the square of any positive integer is of the form $3m$ or $3m + 1$ where m is some integer.

Q14. A bookseller purchased 117 books on moral values out of which 45 books are of honesty and remaining books are of unity. Each book has same size. Honesty and unity books are to be packed in separate bundles and each bundle must contain same number of books. Find the least number of bundles that can be made for these 117 books. Discuss moral values other than honesty and unity which student must possess.

Q15. Find all the zeroes of the polynomial $x^4 - 5x^3 - 9x^2 + 15x + 18$ if two of its zeroes are $\sqrt{3}$ and $-\sqrt{3}$.

Q16. Divide $3x^2 - x^3 - 3x + 5$ by $x - 1 - x^2$ and verify division algorithm.

Q17. Solve the following pair of linear equations by reducing them to a pair of linear equation.

$$\frac{5}{x-1} + \frac{1}{y-2} = 2, \quad \frac{6}{x-1} - \frac{3}{y-2} = 1$$

Q18. Find a fraction which becomes $\frac{1}{2}$ when 1 is subtracted from the numerator and 2 is added to denominator and it becomes $\frac{1}{3}$ when 7 is subtracted from the numerator and 2 is subtracted from the denominator.

$$\frac{11 \times 2^3 \times 5^3}{2 \times 3} = 11 \times 8 \times 125$$

(2X4=8)

(3 X 5 = 15)

(4X6=24)

H.C.F.