

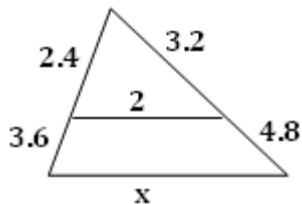


FACULTY HIGHER SECONDARY SCHOOL
SAMPLE PAPER 2019-20
SUBJECT: MATHEMATICS
CLASS- X
FULL MARKS -50

SECTION -A [1X5=5]

Choose the correct answer

1. If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; a,b being prime numbers then LCM of P and Q is
 A. ab B. a^2b^2 C. a^3b^2 D. a^3b^3
2. The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after.
 A. one decimal place B. two decimal place
 C. three decimal place D. four decimal place
3. The quadratic polynomial whose sum of zeroes is 3 and product of zeroes is -2 is :
 A. x^2+3x-2 B. x^2-2x+3 C. x^2-3x+2 D. x^2-3x-2
4. Every point on the line representing the linear equation is two variables.
 A. may not be a solution of the equation
 B. is a solution of the equation
 C. is a solution if it is also a point on x-axis
 D. is a solution if it is also a point on y -axis
5. In the given figure value of x(in cm) is



- A. 4 B.5 C. 6 D. 8

SECTION -B [1X5=5]

6. If $ax^2 + bx + c = 0$ has equal roots then a =
 A. $\frac{b^2}{4c}$ B. $\frac{-b^2}{4c}$ C. $\frac{b}{2c}$ D. $\frac{-b}{2c}$
7. The number of terms in the AP 2,5,8..... 59 is
 A. 12 B.19 C. 20 D. 25
8. Write the first four term of an AP whose first is -2 and the common difference is $-\frac{1}{2}$
9. What is the co-efficient of x in quadratic equation $5x^2-9 = 0$
10. The lengths of the diagonals of a rhombus are 30 cm and 40 cm. Find the side of the rhombus.

SECTION -C [2X5=10]

11. Prove that $15+17\sqrt{3}$ is an irrational number.
12. If α, β are the zeroes of a polynomial such that $\alpha + \beta = 6$ and $\alpha \beta = 4$, then write the polynomial.
13. The line represented by $x=7$ is parallel to the x-axis, Justify whether the statement is true or not.

14. The perimeters of two similar triangles are 25 cm and 15 cm respectively. If one side of first triangle is 9 cm, what is the corresponding side of the other triangle?
15. Which term of the AP 4,9,14,19 is 139?

SECTION D [3X6=18]

16. If 9th term of an AP is zero, prove that its 29th term is double the 19th term.
17. Find the roots of the quadratic equation $2x^2 - x + \frac{1}{8} = 0$ by factorisation.
18. Can two number have 18 as their HCF and 380 as their LCM? Give reasons.
19. If one zeroes of the quadratic polynomial $2x^2 - 3x + p$ is 3 find the other zeroes. Also find the value of P.
20. Solve for x and y.
- $$47x + 31y = 63$$
- $$31x + 47y = 15$$
21. Solve graphically
- $$x + 4y = 10$$
- $$\text{and } y - 2 = 0$$

SECTION E [4X3=12]

22. The income of X and y are in the ration of 8:7 and their expenditure are in the ratio of 19:16. If each saves ₹ 1250, find their income.
23. State and prove Basic Proportionality Theorem.
24. The sum of the 6th and 9th terms of an AP is 101 and the sum of the 10th and 16th terms is 178. Find the first three terms of the AP.
25. What must be added to $4x^4 + 2x^3 - 2x^2 + x - 1$ so that the resulting polynomial is divisible by $x^2 + 2x - 3$.