

STD : X

MAX MARKS: 20

SUBJECT : MATHEMATICS (E) : LEVEL 1

TIME : 1 hr

Q.1.A) Select and write the correct alternative from those given below. (1)

The value of 'k' for which the pair of linear equations $3x - 4y = 7$ and $6x + ky = 5$ has no solution is:

- a) 8 b) 2 c) -2 d) -8

B) Find the solution of **ANY ONE** of the following pair of linear equations: (3)

i) $2x - 3y = 13$ and $4x + 5y = -7$ (By Elimination method)

ii) $7x + 2y = 11$ and $5x - y = 20$ (By Cross multiplication method)

C) Find all the zeroes of the polynomial $2x^3 + x^2 - 6x - 3$ if two of its zeroes are $\sqrt{3}$ and $-\sqrt{3}$. (3)

D) The area of a rectangle gets reduced by 8 cm^2 , if its length is reduced by 5 cm and breadth is increased by 3 cm. If we increase the length by 3 cm and the breadth by 2 cm, the area increases by 74 cm^2 . Find the length and the breadth of the rectangle. (3)

Q.2.A) Select and write the correct alternative from those given below. (1)

The distance between the points A(2, -3) and B(2, 2) is :

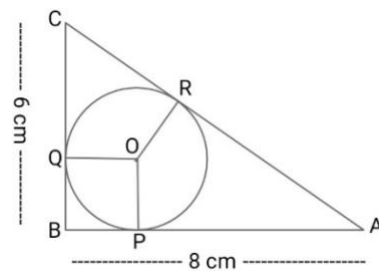
- (a) 2 units (b) 3 units (c) 4 units (d) 5 units

B) Attempt the following. (2)

i) If m and n are the zeroes of the polynomial $x^2 - 7x + 12$ then find the value of $\frac{1}{m} + \frac{1}{n}$

ii) Determine if -2 is a zero of the polynomial $p(x) = x^3 + x^2 - 2x$

C) In the adjoining figure, ΔABC is right angled at B such that $BC = 6 \text{ cm}$ and $AB = 8 \text{ cm}$. Find the radius of the circle. (3)



D) i) Find the ratio in which the point P(2,-5) divides the line segment joining the points A(-3, 5) and B(4, -9) internally. (2)

ii) Find the area of rectangle ABCD if its vertices A(1, -3), B(13, 9), C(10, 12) and D(-2, 0) are taken in order. (2)

----- (÷ × + -) -----

N.B: In Q.1.D), Word problem or Graphical solution may be tested from the topic 'Pair of L.E in two variables'.