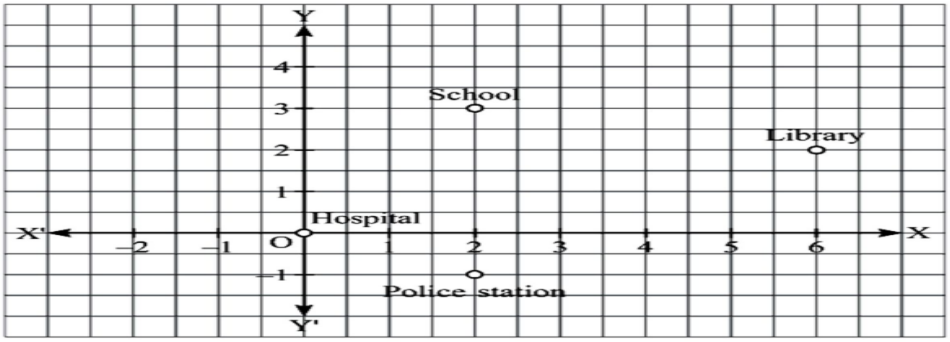
CBT EXAM-JULY-2024-25

CHAPTERS- POLYNOMIALS, CO-ORDINATE GEOMETRY

CLASS-IX (MATHS)

Aditya is a Class IX student residing in a village. One day, he went to a city Hospital along with his grandfather for general checkup. From there he visited three places School, Library and Police Station. After returning to his village, he plotted a graph by taking Hospital as origin and marked three places on the graph as per his direction of movement and distance. The graph is shown below:



(1) What are the coordinates of School?
(A) (3, 2)
(B) (2, 3)
(C) (3, 5)
(D) (5, 3)
Sol. (B) (2, 3)
IT IS ON DISTANCE OF 2-UNITS FROM X-AXIS AND 3- UNITS FROM Y-AXIS.
(2) What are the coordinates of Police Station?
(A) (2, -1)
(B) (2, 1)
(C) (-2, -1)
(D) (-2, 1)
ANS: (A) (2, -1)
It is on distance of 2-units from X-axis and -1 units from Y- axis
(3) Distance between school and police station:
(A) 4
(B) 3
(C) 2
(D) 1
ANS: (A) 4
BOTH SCHOOL AND POLICE STATION ARE ON STRAIGHT LINE AND ON DISTANCE OF 4 UNITS (3+1)

(4) What are the coordinates of Library?
(A) (2, 6)
(B) (2, -6)
(C) (6, -2)
(D) (6, 2)
Sol. (D) (6, 2)
IT IS ON DISTANCE OF 6-UNITS FROM X-AXIS AND 2-UNITS FROM Y-AXIS

(5) In which quadrant the point (-1, 4) lies?

(A) I

(B) II

(C) III

(D) IV

ANS: **(B) II**

TO REACH ON THIS POINT WE HAVE TO MOVE 1 UNIT ON -X AXIS AND 4-UNITS ON Y-AXIS.

Case Study : Ankur and Ranjan start a new business together. The amount invested by both partners together is given by the polynomial $p(x) = 4x^2+12x+5$, which is the product of their individual shares.

(6). Coefficient of x^2 in the given polynomial is

(A) 2

(B) 3

(C) 4

(D) 12

ANS: (C) 4

Coefficient of x^2 is 4

7.Total amount invested by both, if x = 100 is

(A) 41205

(B) 37056

(C) 401200

(D) 49062

ANS: (A) 41205

$P(100) = 4 \times 100 \times 100 + 12 \times 100 + 5 =$ Rs. 41205

8. The shares of Ankur and Ranjan invested individually are

(A) $(2x + 1), (2x + 5)$

(B) $(2x + 3), (x + 1)$

(C) $(x + 1), (x + 3)$

(D) None of these

ANS: (A) $(2x + 1), (2x + 5)$

$p(x)=4x^2 +12x+5$

$p(x)=4x^2 +10x +2x +5 =(2x + 1)(2x + 5)$

9.What is the name given to the polynomial which represents the amount that each of them has invested.

(A) Cubic

(B) Quadratic

(C) Linear

(D) None of these

ANS: (C) Linear

$2x + 1$ and $2x + 5$ are linear.

10. What is the degree of the polynomial $p(x)=4x^2 +12x+5$

(A) 4

(B) 3

(C) 2

(D) 1

ANS: (C) 2

The degree of a polynomial is the highest power of the variable in a polynomial