PRISM WORLD

Std.: 10 (English) **Maths - I** **Marks: 20**

Date: **Time: 1 hrs**

Chapter: 1

Q.1 Choose the carrect alternatives. **(3)**

1) To draw graph of 4x + 5y = 19, Find y when x = 1.

a. 4 b. 3 c. 2 d. - 3

2) x - 2y = 4 ; 2x - 4y = 8 represents.

a. One line in xy graph b. Two lines in xy graph

c. Three lines in xy graph d. Four lines in xy graph

3)

ax + by = c and mx + ny = d and an $\neq$ bm then these simultaneous equations have -

a. Only one common solution b. No solution

c. Infinite number of solutions d. only two solutions

Q.2 Solve the following question. (Any Two) **(4)**

1) Find the value of D_x for the simultaneous equation 3x + 4y = 8; x - 2y = 5.

2) If 52x + 65y = 183 and 65x + 52y = 168 then find x + y = ?

3) For certain simultaneous equations, if

i. D = -5, D_x = 15, D_y = 10

ii. D = 4, D_x = 2, D_y = 8

find the values of x and y.

Q.3 Solve the following question. (Any Two) **(6)**

1) In a right angled triangle, one of the acute angles exceeds the other by 20°. Find the measures of both the acute angles in the right angled triangle.

2) Solve the following simultaneous equations.

99x + 101y = 499 ; 101x + 99y = 501

3) Without drawing the graph, show that y = 5x - 3; y = 4 - 2x and 2x - 3y = 8 are concurrent lines.

Q.4 Solve the following question. (Any One) **(4)**

1)

Solve the following simultaneous equations: $\frac{4}{x+y} + \frac{5}{x-y} = \frac{7}{2}$; $\frac{2}{x+y} + \frac{4}{x-y} = \frac{5}{2}$

2) Pooja travels 14 km to her home partly by rickshaw and partly by bus. She takes half an hour if she travels 2 km by rickshaw and the remaining distance by bus. On the other hand, if she travels 4 km by rickshaw and the remaining distance by bus, she takes 9 minutes longer. Find the speed of the rickshaw and bus.

Q.5 Solve the following question. (Any One) **(3)**

1) A two digit number and the number with digits interchanged add up to 143. In the given number the digit in unit's place is 3 more than the digit in the ten's place. Find the original number.

2) Solve :-

$\frac{1}{x+y} - \frac{1}{2x} = \frac{1}{30}$, $\frac{5}{x+y} + \frac{1}{2x} = \frac{4}{3}$.

Hence find the value of $2x^2 - y^2$