1. Solve the equation 2x + 1 = x – 2 & represent the solution on :

The number line

Cartesian plane

Q. 2. The linear equation that converts the Fahrenheit to Celsius is as follows:-

$$F = \left(\frac{9}{5}\right) C + 32$$

Draw the graph of the linear equation .

If the temperature is 950F , what is the temperature in Celsius .

Is there a temperature which is numerically the same in both Fahrenheit and Celsius ? If yes, find it.

Q. 3. Express the following information in the form of linear equation :

In a one day International cricket match between India & Srilanka played in Nagpur, two Indian batsman together scored 176 runs .

The cost of a notebook is twice the cost of a pen.

Q. 4. Find two solutions for each of the following equations :

4x + 3y = 12

2x + 5y = 0

px + y = 3

Q. 5. Express each of the following linear equation in the standard form & hence find the values of a, b & c in each case :

x - $\frac{y}{5}$ - 10= 0

2x + 3y = $9.3\overline{5}$ (c) 2x = -5y

Q. 6. Check which of the following are solutions of the equation x – 2y = 4.

$(\sqrt{2}, 4\sqrt{2})$

(1,1)

(4,0)

Q. 7. (a). How many solutions does the following linear equation & why ?

3x – y + 5 = 0

Find the value of k, if x = 2, y = 1 is a solution of the equation 2x + 3y = k.

Q. 8. (a). Given the point (1,2), find the equation of a line on which it lies. How many such equations are there ?

(b)Give an equation of two lines passing through (2,14). How many more Such lines are there & why ?

Q. 9. Draw the graph of each of the following linear equation in two variables :

3 = 2x + y

y = 3x

Q. 10. The taxi fare in the city is as follows : For the first kilometer, the are is Rs. 8 & for the subsequent distance it is Rs. 5 per km. Write a linear equation for this information & draw its graph .

Q.11. Write the quadrant in which each of the following points lie :

(i) (–3, –5) (ii) (2, –5) (iii) (–3, 5) Also, verify by locating them on the Cartesian plane.

Q. 12 Solve the equation $3x + 2 = 2x - 2$ and represent the solution on the Cartesian plane

Q. 13. The taxi fair in a city is as follows:

For the first kilometer, the fare is Rs 10 and for the subsequent distance it is Rs 6 per km. Taking the distance covered as x km and total fare as Rs y, write a linear equation for this information and draw its graph. From the graph, find the fare for travelling a distance of 4 km

Q.14. Is (1, 8) the only solution of $y = 3x + 5$? Give reasons.

Q.15. Write the coordinates of a point on x-axis at a distance of 4 units from origin in the positive direction of x-axis and then justify your answer.