SBOA SCHOOL AND JUNIOR COLLEGE

STD: IX

MATHEMATICS

ASSIGNMENT – 1

1) How many rational nos. are between any 2 rational nos?

2) Write 6 rational nos. between $-\frac{2}{13}$ and $-\frac{9}{13}$

3) Write 4 rational nos. between $\frac{1}{4}$ and $\frac{1}{3}$

4) Represent $-\frac{1}{2}$ and $\frac{3}{4}$ on a number line.

5) Express in $\frac{p}{q}$ form:
i) 2.15 ii) 7.01 iii) 1.002

6) Find the decimal expansion of:
i) $1\frac{1}{7}$ ii) $\frac{3}{13}$ iii) $\frac{1009}{1000}$

7) If $x = 8$, find the value of $\sqrt[3]{x} + x - 5$

8) If $a = \frac{3}{2}$, find the value of $a^2 + \frac{1}{a^2}$

9) If $a = \frac{5}{7}$ and $b = \frac{3}{4}$, find the value of $a^2 - b^2$.

10) Find the value of x if:

(i) $\left(\frac{3}{4}\right)^3 \times \left(\frac{4}{3}\right)^{-7} = \left(\frac{3}{4}\right)^{2x}$

(ii) $81^{5/x} = 243$

(iii) $(5)^{x-3} \times (5)^4 = \frac{1}{5^2}$

(iv) $\left(\frac{3}{4}\right)^6 \times \left(\frac{16}{9}\right)^5 = \left(\frac{4}{3}\right)^{x+2}$

(v) $2^4 \times 2^5 = (2^3)^x$

11) Simplify:

i) $(125)^{-1/3} \times \{(125)^{1/3} - (125)^{2/3}\}$

ii) $\left[(625)^{-1/2}\right]^{1/4}$

(iii) $\left(\frac{5^{-3} \times 7^4}{7^{-2} \times 5^{-6}}\right) \cdot \left(\frac{5^{-3} \times 7^{-3}}{7^5 \times 5^2}\right)$

(iv) $\frac{2^0 + 7^0}{5^0}$ (v) $\left(\frac{64}{729}\right)^{-\frac{1}{6}}$

(vi) $27^{1/3} \times 4^{1/2}$ (vii) $\left(\frac{81}{16}\right)^{-\frac{3}{4}} \times \left(\frac{25}{9}\right)^{-3/2}$

(viii) $(32)^{1/5} + (-7)^0 + (64)^{1/2}$

(ix) $\frac{15 \times 3^{-2} \times t^2}{t^{-3} \times 10 \times 2^3}$

12) Evaluate:
$\left(1^3 + 2^3 + 3^3\right)^{-3/2}$

13) Prove that:
$\left(\frac{2^a}{2^b}\right)^{a+b} \times \left(\frac{2^b}{2^c}\right)^{b+c} \times \left(\frac{2^c}{2^a}\right)^{c+a} = 1$

SBOA SCHOOL AND JUNIOR COLLEGE, ANNA NAGAR WEST, CHENNAI - 101

SID : IX

MATHEMATICS

ASSIGNMENT - (2)

1) If Y-coordinate of a point is zero, then the point lies on the _____

2) How many lines can be drawn through the point (5,0)

3) A point both of whose coordinates are negative will lie in the _____ quadrant.

4) In which quadrant does (x,y) lie, if y is negative and x is positive.

5) If which quadrant or axis do these points lie.
i) (2019, 2020) (ii) (2020, 0)

6) Write the coordinates of the point,
i) whose ordinate is -5 and which lies on the Y axis.
ii) Whose abscissa is -3 and which lies on the X axis.

7) Write the abscissa of the point (-2,7)

8) Find the perpendicular distance of the point P(3,4) from X axis.

9) Find the value of 'a' if the point (a,3) lies on the Y axis.

10) Plot the points P(1,0), Q(4,0), S(1,3). Find the coordinates of point R such that PQRS forms a square.

11) Plot the points P(-1,0), Q(0,1), R(2,3) on a graph sheet. Check if they are collinear or not.

12) Plot the points A(1,3) B(1,-1) C(7,-1) and D(7,3) Join them in order and name the figure so obtained

13) Plot the following points A(0,4) B(0,0) C(2,0). Join them. Find the area of the figure so obtained.

14) Plot the points A(4,0) B(0,-4) C(-4,0) D(0,4) Join AB, BC, CD, DA.
i) Name the figure obtained
ii) Write two properties of the figure obtained