Cosmo School

Work Sheet – 05 (Higher Mathematics) for class – Nine (20.10.2020)
Chapter- Five, Exercise - 5.7
Equation

Creative Questions:

1. $\sqrt[3]{(1+y)} + \sqrt[3]{(1-y)} = \sqrt[3]{2}$**.....(i) and** $x^2 + 8x - 5 = 0$**.....(ii) are two equations. [J.B.- 19]**
   a) If $5^{y+2} = 625$ then find the value of y.
   b) Determine the roots of the equation (i).
   c) Use graph to solve the equation (ii).

2. **Twice the square of a number is less by 3 than 5 times of the number. But 5 times of the square of that number is greater by 3 than 2 times of the number.**
   a) Form the equations using the information given by the above stimulus.
   b) Solve the first equation using formula.
   c) Solve the second equation using graph.

3. **The area of a land of Mr. Ashfaque Ali is 0.12 hector. One-half of its perimeters is greater by 20 metres than one of its diagonals. He sells one-third of his land to Mr. Shyam. The length of Shyam's land is greater by 5 metres than its breadth.**
   [1 hector = 10000 square meter]
   a) Form two equations in the light of stimulus.
   b) Find the length and breadth of the land of Mr. Ashfaque Ali.
   c) Find the length of a diagonal and the perimeter of the land of Mr. Shyam.

4. $f(x) = x^2 - 6x + 15$ **and** $g(x) = x^2 - 6x + 13$**.**
   a) If f(x) = 7 then find the value of x.
   b) If $\sqrt{f(x)} - \sqrt{g(x)} = \sqrt{10} - \sqrt{8}$ then solve the equation.
   c) Draw the graph of g(x).

5. **Twice the square of a number is 3 less than 5 times the number.**
   a) If the number is x form the equation on the basis of the given information.
   b) Solve the equation using formula.
   c) Solve the equation using graph and verify its solutions.