Assignment # 1 MTH-100

Question 1: Solve for x

1. $7 + |2x - 5| = 4$
2. $-|-8 - 2x| = -12$
3. $x^2 - 8x + 13 = 0$
4. $\frac{3}{x} + \frac{5}{x+2} = 2$

Question 2: Solve for x and write the solution in interval notation. Show the solution graphically on number line.

1. $|2 + 2x| > 0$
2. $|4x - 2| \leq 17$
3. $4 \leq 3x - 2 \leq 13$
4. $x^2 \leq 5x - 6$
5. $\frac{1+x}{1-x} \geq 1$

Question 3: Derive the Quadratic formula to find the roots of quadratic equation.

Note: Solve the assignment in group of 2 students each.

DUE DATE: 28-03-2022

Assignment # 2 MTH-100

Question 1: Which of the points P(1,-2) or Q(8,9)is closer to the point A(5,3)?

Question 2: Show that the quadrilateral with vertices P(1,2), Q(4,4), R(5,9), and S(2,7) is a parallelogram by proving that its two diagonals bisect each other. (Show the quadrilateral on the coordinate plane).

(**Hint**: If the two diagonals have the same midpoint, then they must bisect each other, and the quadrilateral will be a parallelogram).

Question 3: Sketch the graph of the equations $y = x^2 - 2$ and $y = |x|$ for $-3 \leq x \leq 3$.

Question 4: Write the equation of the line in slope-intercept form $(y = mx + b)$. Identify slope and y-intercept of the line.

1. $8x - 9y = 0$
2. $9x - 3y + 15 = 0$

Question 5: Find an equation of the line through the points (-1,2) and (3,-4) using point-slope form of the equation.

Question6: Find an equation of the line that is perpendicular to the line $4x + 6y + 5 = 0$ and passes through the origin.

Note: Solve the assignment in group of 2 students each.

DUE DATE: 29-03-2022