Assignment # 01   MTH403 (Spring 2024)

Question No. 1

Let $|z_1| = 3i$ and $|z_2| = 3 - 4i$. Then by using Triangular Inequality, find the extreme values of $|z_1 + z_2|$.

Question No. 2

Simplify $\left(\frac{1+\sqrt{3}\, i}{1-\sqrt{3}\, i}\right)^5$ by using De-Moivre's theorem.

Question No. 3

Show that $\left|e^{iz^4}\right| = e^{-(4x^3y - 4xy^3)}$, $for\ z(x + iy)\epsilon C$.

Question No. 4

Represent the equation $x^2 + 5x - 2y + 5 = 0$ in standard equation of parabola and find the vertex and focus.