Problem 1

Use the method of Lagrange, find the closest point on the plane $2x + 3y - z = 4$ to the origin.

Problem 2

Use the method of Lagrange to find the closest point on the surface $xyz = 1$ to the origin.

Problem 3

Use the method of Lagrange to find the closest point on the surface $z^2 = xy + 4$ to the origin.