

ANSWERS FOR EXAM 1 (SAMPLE)

Problem 1. $D_{\mathbf{u}} = \cos\left(\frac{1}{3^{\frac{3}{2}}}\right) + \frac{4}{\sqrt{3}} + 1$.

Problem 2. The tangent plane is given by formula $x + y + z = \sqrt{3}$.

Problem 3. There are two points $P_0 = (0, 0, 2)$ and $P_1 = (0, 0, -2)$.

Problem 4. $dz = 0$.