Question 1. Find an equation of the tangent plane to surface

\[ f(x, y) = x^2 + 2xy + y^2 - 2 \]

at the point \((1, 1, 2)\)

Question 2. Find the point of intersection between the normal line to the ellipsoid

\[ x^2 + y^2 + 2z^2 = 4 \]

at the point \((1, 1, 1)\) and the plane \(x + y - z = 8\).