

MATH 253 – WORKSHEET 10
TANGENT PLANES

Find the equation of the plane tangent to the following surfaces at the following points:

(1) $z = e^{-x^2-y^2}$ at $(0, 0, 1)$.

(2) $z = e^{-x^2-y^2}$ at $(1, 1, e^{-2})$.

(3) Two planes tangent to the surface $z = 1 - x^2 - y^2$ meet the x -axis at $\frac{21}{16}$ and the y -axis at $\frac{21}{8}$. What are they? Where are the points of tangency?