7. $z = e^{xy^2}$ $(0,2,0)$ $x_0\ y_0\ z_0$

$\underbrace{z - e^{xy^2}}_{f} = \underbrace{0}_{\text{ZERO}}$

① $f_x = -e^{xy^2} \cdot y^2 = -y^2 e^{xy^2}$

$f_y = -e^{xy^2} \cdot 2xy = -2xy\, e^{xy^2}$

$f_z = 1$

② $f_x = -2^2 e^{0 \cdot 2^2} = -4$

$f_y = -2(0)(2) e^{0 \cdot 2^2} = 0$

$f_z = 1$

③ $f_x(x-x_0) + f_y(y-y_0) + f_z(z-z_0) = 0$

$-4(x-0) + 0(y-2) + 1(z-0) = 0$

$\boxed{0 = z + 4x}$

④ $\frac{x-x_0}{f_x} = \frac{z-z_0}{f_z}$

$\frac{x-0}{-4} = \frac{z-0}{1}$

$\boxed{-\frac{1}{4}x = z}$