2 A, $z = \ln \sqrt{\dfrac{x^2 + y^2}{2}}$

$z = \dfrac{1}{2} \ln(x^2 + y^2) - \dfrac{1}{2} \ln(2)$.

$\dfrac{df}{dx} = \dfrac{1}{2} \dfrac{2x}{(x^2 + y^2)} \Big|_{(-1,1,0)}$ $\dfrac{-2}{4} = -\dfrac{1}{2}$

$\dfrac{df}{dy} = \dfrac{1}{2} \dfrac{2y}{(x^2 + y^2)}$ $\dfrac{2}{4} = \dfrac{1}{2}$.

$f(-1,1) = 0$.

$z = 0 + \left(-\dfrac{1}{2}\right)(x - -1) + \left(\dfrac{1}{2}\right)(y-1)$

$z = -\dfrac{1}{2}(x+1) + \dfrac{1}{2}(y-1)$

B. $z + \dfrac{1}{2}x - \dfrac{1}{2}y = -1$

$2z + x - y = -2$.

passes   through. $(-1, 1, 0)$ with   drecon $(2, 1, -1)$

$x = x_0 + x_1 t$

$x = -1 + 2t$ $y = 1 + t$ $z = -t$ = parametric eq^n/