16.5 Coordinate Systems
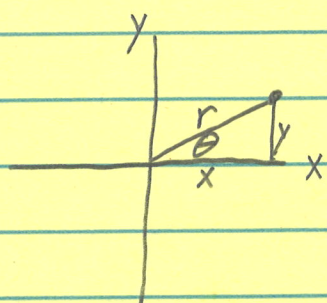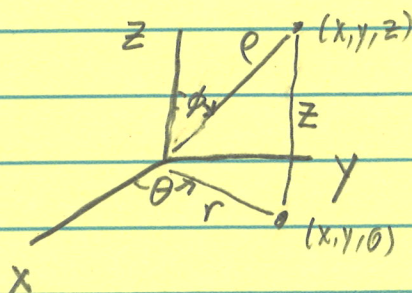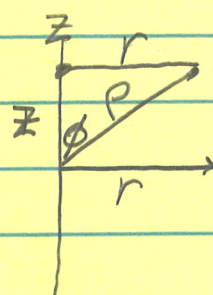

$x = r \cos \theta \quad y = r \sin \theta$

$r^2 = x^2 + y^2 \quad \tan \theta = \frac{y}{x}$

$z = \rho \cos \phi \quad r = \rho \sin \phi$

$\rho^2 = r^2 + z^2 \quad \tan \phi = \frac{r}{z}$

z is over a point (var 3)

θ is fixed first (var 1)