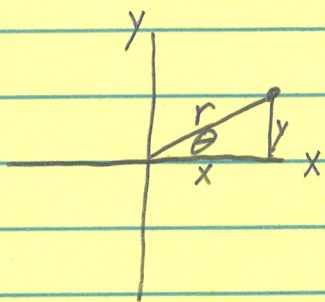
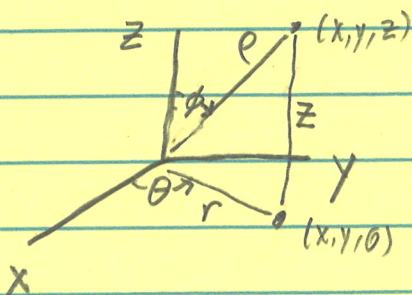
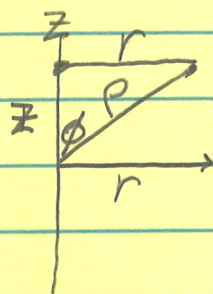


16.5 Coordinate Systems



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

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



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

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

z is over a point (var 3)

θ is fixed first (var 1)