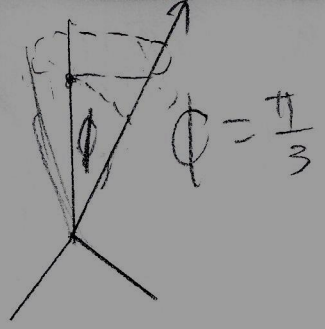
(5) $\phi = \frac{\pi}{3}$ a half cone facing upwards



(7) $\rho\cos\phi = 1 \Rightarrow z = 1$ a horizontal plane centered at $(0,0,1)$

(9a.) $x^2 + y^2 + z^2 = 9$

$\rho^2\sin^2\phi\cos^2\theta + \rho^2\sin^2\phi\sin^2\theta + \rho^2\cos^2\phi = 9$

$\rho^2\sin^2\phi + \rho^2\cos^2\phi = 9$

$\rho^2 = 9$

$\boxed{\rho = 3}$

b.) $x^2 - y^2 - z^2 = 1$

$\rho^2\sin^2\phi\cos^2\theta - \rho^2\sin^2\phi\sin^2\theta - \rho^2\cos^2\phi = 1$

$\rho^2\sin^2\phi\cos 2\theta - \rho^2\cos^2\phi = 1$

$\boxed{\rho^2(\sin^2\phi\cos 2\theta - \cos^2\phi) = 1}$

(11) $\rho \le 1 \quad \phi \in [0, \frac{\pi}{6}] \quad \theta \in [0, \pi]$