

9. $y = 9 - x^2$, $y = 0$, $x > 0$, $\rho = kx$

$$m = \int_{x=0}^{x=3} \int_{y=0}^{y=9-x^2} (kx) dy dx =$$

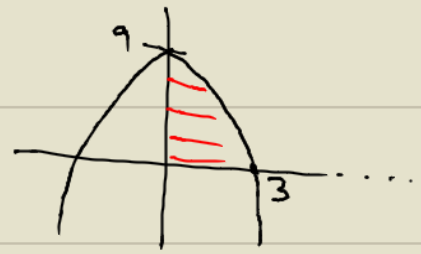
$$I_x = \int_{x=0}^{x=3} \int_{y=0}^{y=9-x^2} y^2 (kx) dy dx =$$

$$I_y = \int_{x=0}^{x=3} \int_{y=0}^{y=9-x^2} x^2 (kx) dy dx =$$

$$I_0 = I_x + I_y$$

$$\bar{x} = \sqrt{\frac{I_y}{m}}$$

$$\bar{y} = \sqrt{\frac{I_x}{m}}$$



$$9 - x^2 = 0$$

$$9 = x^2$$

$$x = \pm \sqrt{9}$$

$$x = \pm 3$$