

$$2/64 \quad x = y^2/6 \quad \& \quad \dot{y} = 3 \text{ in./sec}$$

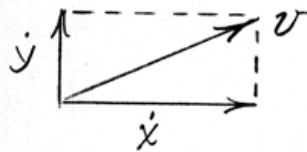
$$\dot{x} = \frac{y}{3} \dot{y} \quad , \quad \ddot{x} = \frac{\dot{y}^2}{3} + \frac{y}{3} \ddot{y} \quad \text{but } \ddot{y} = 0 \quad \& \quad \dot{y} = 3 \text{ in./sec}$$

Also when $x = 6 \text{ in.}$, $y = \sqrt{36} = 6 \text{ in.}$

$$\text{So } \dot{x} = \frac{6}{3} (3) = 6 \text{ in./sec}$$

$$\text{Hence } v = \sqrt{\dot{x}^2 + \dot{y}^2} = \sqrt{6^2 + 3^2} = \underline{3\sqrt{5} \text{ in./sec}}$$

$$a = \sqrt{a_x^2 + a_y^2} = \sqrt{(3^2/3)^2 + 0} = \underline{3 \text{ in./sec}^2}$$



$$a = \ddot{x}$$

