

12.4.

$$\sqrt{y} + \sqrt{x} = 3$$

(46)

$$\frac{1}{2\sqrt{y}} \cdot \frac{dy}{dx} + \frac{1}{2\sqrt{x}} = 0.$$

$$\begin{aligned} \frac{dy}{dx} &= -\frac{1}{2\sqrt{x}} \cdot 2\sqrt{y} \\ &= -\frac{\sqrt{y}}{\sqrt{x}} \end{aligned}$$

$$\left. \frac{dy}{dx} \right|_{(1,4)} = -\frac{\sqrt{4}}{\sqrt{1}} = -2.$$

Eq. of tangent at  $(1, 4)$

$$y - \cancel{4} = -2(x - 1)$$

4