

初

$\frac{d^2y}{dx^2}$  即二阶导

$$\sqrt{x} + \sqrt{y} = 1 \Rightarrow \text{两边同时求导: } \frac{1}{2\sqrt{x}} + \frac{1}{2\sqrt{y}} \cdot y' = 0.$$

$$\text{故 } y' = -\frac{\sqrt{y}}{\sqrt{x}}; \quad y'' = -\left(\frac{\sqrt{y}}{\sqrt{x}}\right)' = -\frac{\frac{y'}{2\sqrt{y}} \cdot \sqrt{x} - \frac{\sqrt{y}}{2\sqrt{x}}}{x} = \frac{\frac{\sqrt{x}}{2\sqrt{y}} - \frac{\sqrt{y}}{2\sqrt{x}} \cdot \frac{\sqrt{y}}{\sqrt{x}}}{x} = \frac{\frac{\sqrt{x}}{2\sqrt{y}} + \frac{1}{2}}{x}$$

$$\therefore \frac{d^2y}{dx^2} = \frac{\sqrt{y}}{2x\sqrt{x}} + \frac{\sqrt{y}}{2x\sqrt{x}} + \frac{1}{2x} = \frac{1-\sqrt{x}}{2x\sqrt{x}} + \frac{1}{2x}$$

一阶导  $\rightarrow$  二阶导  $y' \rightarrow [y']'$

二次求导

$\downarrow$   
代入二阶导

CR 千通!!!

破前)

