

$$\begin{aligned} \text{a) } y &= \sqrt{x} + \sqrt[3]{x} \\ &= x^{\frac{1}{2}} + x^{\frac{1}{3}} \end{aligned}$$

$$\begin{aligned} y' &= \frac{1}{2} x^{-\frac{1}{2}} + \frac{1}{3} x^{-\frac{2}{3}} \\ &= \frac{1}{2} \cdot \frac{1}{\sqrt{x}} + \frac{1}{3} \cdot \frac{1}{\sqrt[3]{x^2}} \end{aligned}$$

$$\text{f. var. : } y' = \frac{1}{2\sqrt{x}} + \frac{1}{3\sqrt[3]{x^2}}$$

$$\text{b) } y = \frac{1}{x} + \sqrt{x}$$

$$y = x^{-1} + x^{-\frac{1}{2}}$$

$$y' = -1 x^{-2} + \left( -\frac{1}{2} x^{-\frac{3}{2}} \right)$$

$$x^{-\frac{3}{2}} = \frac{1}{x^{\frac{3}{2}}} = \frac{1}{x^{1+\frac{1}{2}}} = \frac{1}{x \cdot \sqrt{x}}$$

$$y' = -\frac{1}{x^2} - \frac{1}{2x\sqrt{x}}$$