

$$\lim_{h \rightarrow 0} \frac{\sqrt[3]{8+h} - 2}{h} \rightarrow f'(x) \text{ if } f(x) = x^{1/3}$$

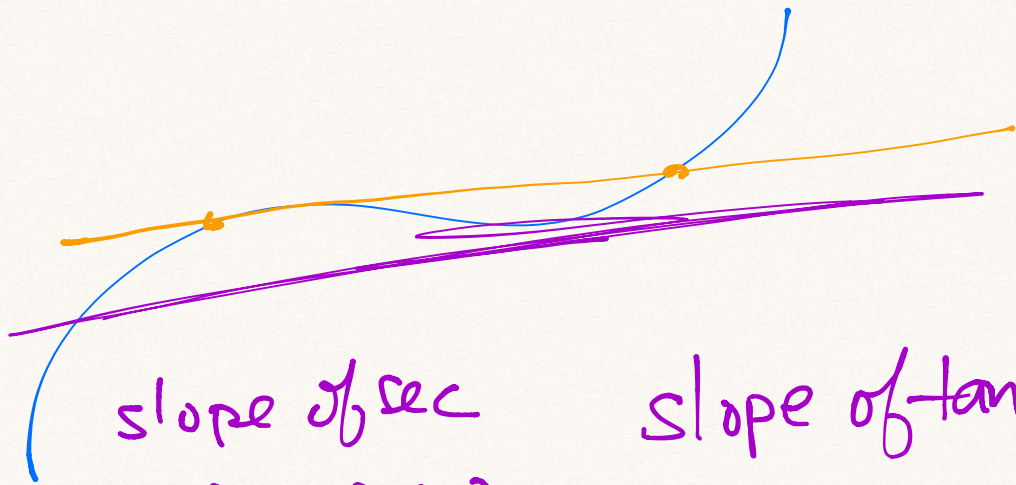
$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$f(x) = \sqrt[3]{x} \quad x = 8$$

$$f(x) = x^{1/3}$$

$$f'(x) = \frac{1}{3} x^{-2/3}$$

$$f'(8) = \frac{1}{3} \cdot 8^{-2/3}$$



slope of sec

slope of tan.

$$\frac{f(1) - f(-1)}{1 - (-1)} = f'(x)$$

$$\frac{0 - 0}{2} = 3x^2 - 1$$

$$3x^2 - 1 = 0$$

$$x^2 = \frac{1}{3}$$

$$x = \pm \sqrt{\frac{1}{3}}$$