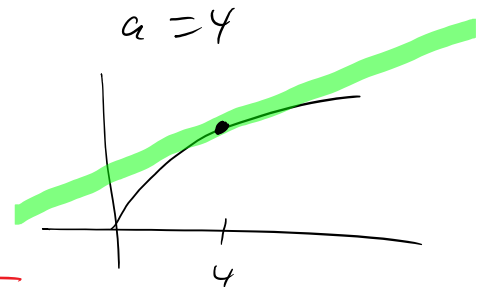


(22)  $f(x) = \sqrt{x}$

$$\lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}$$



$$= \frac{\sqrt{4+h} - 2}{h} \cdot \frac{\sqrt{4+h} + 2}{\sqrt{4+h} + 2}$$

$$= \frac{4+h-4}{h(\sqrt{4+h}+2)} = \frac{h}{h(\sqrt{4+h}+2)} = \frac{1}{\sqrt{4+h}+2}$$

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

$$a = 2$$

$$f(x) = x^3$$

$$\lim_{h \rightarrow 0} \frac{f(2+h) - f(2)}{h} = \frac{(2+h)^3 - 8}{h}$$

$$(2+h)^2 = 4 + 4h + h^2$$

$$(4 + 4h + h^2)(2+h) = 8 + 8h + 2h^2 + 4h + 4h^2 + h^3$$

$$= \frac{h^3 + 6h^2 + 12h + 8 - 8}{h}$$

$$= h^2 + 6h + 12 \rightarrow 12$$

$$a = 2$$

$$\boxed{f'(x) = 12(x-2)}$$