

Title

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$$= \lim_{h \rightarrow 0} \frac{m(x+h) + \cancel{b} - m\cancel{x} - \cancel{b}}{h}$$

$$= \lim_{h \rightarrow 0} \frac{mx + mh - mx}{h}$$

$$= \lim_{h \rightarrow 0} \frac{\cancel{mx} + mh - \cancel{mx}}{h}$$

$$= \lim_{h \rightarrow 0} \frac{mh}{h}$$

$$= \lim_{h \rightarrow 0} \frac{m\cancel{h}}{\cancel{h}}$$

$$= m$$