

$$\begin{aligned}
 \mathbf{5.5} \quad (\lambda f)'(x) &= \lim_{h \rightarrow 0} \frac{(\lambda f)(x+h) - (\lambda f)(x)}{h} = \lim_{h \rightarrow 0} \frac{\lambda f(x+h) - \lambda f(x)}{h} \\
 &= \lim_{h \rightarrow 0} \frac{\lambda (f(x+h) - f(x))}{h} = \lambda \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h} = \lambda f'(x)
 \end{aligned}$$