Calculus I
Derivative of a constant

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Differentiation Formulas

Let c be a constant and consider the constant function $f(x) = c$. Let us calculate the derivative of f:

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

Theorem (Derivative of a Constant Function)

$$\frac{\mathrm{d}}{\mathrm{d}x}(c) = 0$$