

## 16.11: Differentiation Rules

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- $\frac{d[f(x)+g(x)]}{dx} = \frac{df(x)}{dx} + \frac{dg(x)}{dx}$
  - $\frac{d[f(x)g(x)]}{dx} = f(x) \frac{dg(x)}{dx} + g(x) \frac{df(x)}{dx}$
  - $\frac{d[af(x)]}{dx} = a \frac{df(x)}{dx}$
  - $\frac{df(g(x))}{dx} = \frac{df(g)}{dg} \frac{dg(x)}{dx}$
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