

## Derivative Rules

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### Chain Rule

$$f(g(x))' = \frac{df}{dx} = \frac{df}{dg} \cdot \frac{dg}{dx}$$

$$y = (Ax^2 + Bx + C)^3$$

$$\frac{dy}{dx} = 3 \cdot (Ax^2 + Bx + C)^2 \cdot (2Ax + B)$$

[TBD]

### Quotient Rule

$$\left(\frac{f(x)}{g(x)}\right)' = \frac{f(x)'g(x) - g(x)'f(x)}{g(x)^2}$$

[TBD]

### Product Rule

$$(f(x) \cdot g(x))' = f(x) \cdot g(x)' + f(x)' \cdot g(x)$$