# The Chain Rule

$$\frac{d}{dx} f(g(x)) = f'(g(x))\,(g'(x))$$

$h(x) = (2x-3)^4$

h(x) has two parts: f(x) and g(x)

$h(x) = (2x-3)^4$

The chain rule says that:

$h'(x) = f'(x) \quad g'(x)$

$f(x) = (x^2+10)^3$

$f(x) = (x^2+10)^3$ Using "u" substitution

*...Same thing, different notation:*

$$\frac{d}{dx}[f(u)] = f'(u)\,u'$$

$u =$

$f(u) =$

$f'(u) =$

$u' =$

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