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11.2: Derivatives of Exponentials

If $f(x) = e^x$, then $f'(x) = e^x$

Ex 1: Find the derivative.

a) $y = 7e^x - 2x^4 + 5$

b) $f(x) = x^2 e^x$

c) $g(x) = \dfrac{e^x}{(3x^2 - 7)^5}$

If $f(x) = e^{u(x)}$, then $f'(x) = u'(x)\, e^{u(x)}$

Ex 2: Find the derivative.

a) $y = e^{7x^5}$

b) $f(x) = 4x^2 e^{3x^7 - 2}$

Ex 3: Find the derivative.

a) $y = \ln(e^{x^3})$