§2.5: THE CHAIN RULE I

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ANNOUNCEMENTS

FUNDAMENTAL ALGEBRAIC STRUCTURE: PREVIEW ACTIVITY DISCUSSION

THE CHAIN RULE

If g is differentiable at a and f is differentiable at g(a), then the composite function C defined by C(x) = f(g(x)) is differentiable at a, and

$$C'(a) = f'(g(a)) \cdot g'(a)$$

EXAMPLE

Let's calculate the derivative of $f(x) = (x^2 + 4x)^{17}$.

ACTIVITY 2.5.2

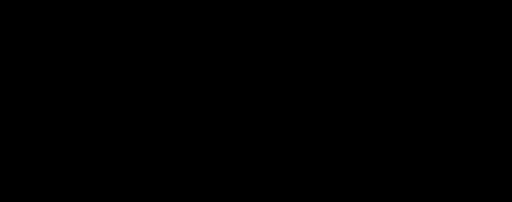
EXAMPLE

Let's calculate the derivative of

$$f(x) = e^{3x}(\cos(2x) - x^3).$$

ACTIVITY 2.5.3

ACTIVITY 2.5.4



More practice next time!