§2.1: ELEMENTARY DERIVATIVE RULES

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PREVIEW ACTIVITY DISCUSSION

ANNOUNCEMENTS

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CONSTANTS, POWERS, AND EXPONENTIALS

- $\frac{d}{dx}[c] = 0$

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- $\frac{d}{dx}[c] = 0$
- $\frac{d}{dx}[x^m] = mx^{m-1}$
- $\frac{d}{dx}[m^x] \ln(m) m^x$

ACTIVITY 2.1.2

CONSTANT MULTIPLES AND SUMS

- $\frac{d}{dx}[cf(x)] = cf'(x)$

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- $\frac{d}{dx}[cf(x)] = cf'(x)$
- $\frac{d}{dx}[g(x) + h(x)] = g'(x) + h'(x)$

ACTIVITY 2.1.3

OBSERVATIONS

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- The derivative of an exponential is an exponential
- We must not lose sight of what the derivative *means*–it still describes the instantaneous rate of change of the function being differentiated

ACTIVITY 2.1.4