

M191

Lect #6

2-9-11

Rules for differentiation

$$f(x) = x^n \quad \leftarrow \text{The Power Rule}$$

$$f'(x) = \frac{dy}{dx} = y' = n \cdot x^{n-1} \cdot 1$$

$$y = x^7 \quad y' = 7x^6 \cdot 1$$

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$$y = 3x^{-4} = 3(-4)x^{-5} \cdot 1$$

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$$y = 2x^3 + 5x^{1/2}$$

$$y' = 2 \cdot 3x^2 \cdot 1 + 5 \cdot \frac{1}{2}x^{-1/2} \cdot 1$$