

$$f(x) = x^n$$

$$f'(x) = n x^{n-1}$$

↳ derivative (or slope)

$$f(x) = x^2$$
$$f'(x) = 2x$$

$$f(x) = x^{-1}$$
$$f'(x) = -x^{-2}$$

$$f(x) = 100x^1$$
$$f'(x) = 100(1)x^{1-0} = 100$$

$$f(x) = x^3$$

$$f'(x) = 3x^2$$

$$f(x) = \frac{x^3}{3}$$
$$f'(x) = \frac{3x^{3-1}}{3} = x^2$$

$$f(x) = x^{100}$$
$$f'(x) = 100x^{99}$$

THE POWER RULE

INTRO