

April 17

How do you write an equation of a tangent line?

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Students will verbally explain how to find derivatives

(using the words:
product, quotient etc...)

DERIVATIVES

Definition of the Derivative:

$$\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h} = f'(x)$$

$$\lim_{h \rightarrow 0} \frac{(x+h)^6 - x^6}{h} = 6x^5$$

DERIVATIVES

$$\frac{d}{dx}(x^n) = n x^{n-1}$$

$$\frac{d}{dx}(f(x) \pm g(x)) = f'(x) \pm g'(x)$$

$$\frac{d}{dx}(f(x)g(x)) = g'(x)f(x) + f'(x)g(x)$$

$$\frac{d}{dx}\left(\frac{f(x)}{g(x)}\right) = \frac{f'(x)g(x) - g'(x)f(x)}{g(x)^2}$$

$$\frac{d}{dx}(f(g(x))) = f'(g(x))g'(x)$$

DERIVATIVES

$$\frac{d}{dx}(\sin x) = \cos x$$

$$\frac{d}{dx}(\cos x) = -\sin x$$

$$\frac{d}{dx}(\tan x) = \sec^2 x$$

$$\frac{d}{dx}(\cot x) = -\csc^2 x$$

$$\frac{d}{dx}(\sec x) = \tan x \sec x$$

$$\frac{d}{dx}(\csc x) = -\csc x \cot x$$