AUTHOR 1 ———————————— ☐

AUTHOR 2 ———————————— ☐

AUTHOR 3 ———————————— ☐

AUTHOR 4 ———————————— ☐
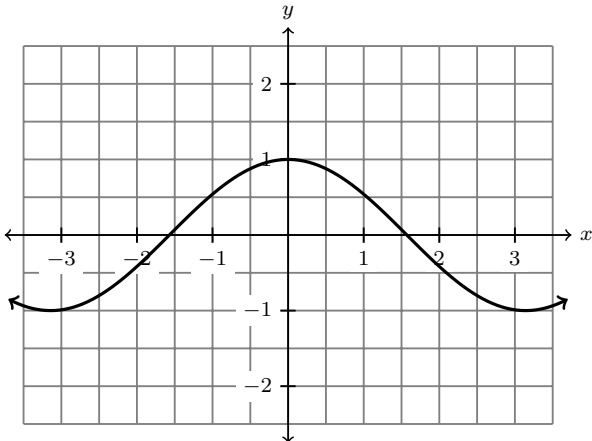
Worksheet 09

1. The graph of $f(x) = \sin(x)$ is below.
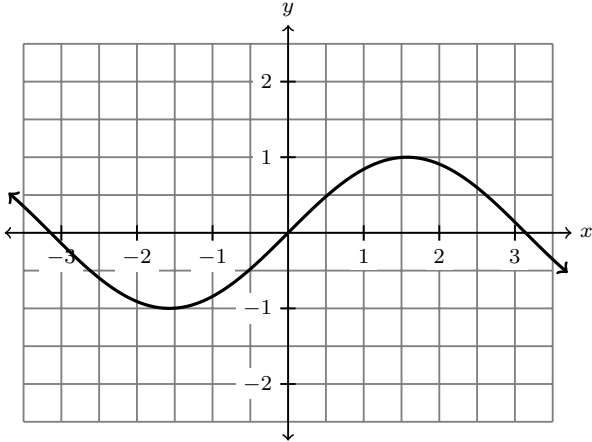
(a) What is the *geometric* meaning of $f'(0)$?

(b) Use the graph of $f(x)$ to find $f'(0)$.

2. The graph of $f(x) = \cos(x)$ is below.

(a) What is the *geometric* meaning of $f'(0)$?

(b) Use the graph of $f(x)$ to find $f'(0)$.

3. Find the derivative of $f(x) = \dfrac{\tan x + 1}{3x + \cos x}$

4. Evaluate the following derivatives.

(a) $\dfrac{d}{dx}\left[\cos(3x)\right]$

(b) $\dfrac{d}{dx}\left[e^{-4x}\right]$

(c) $\dfrac{d}{dx}\left[\sqrt[3]{x^3 + \dfrac{1}{x}}\right]$

(d) $\dfrac{d}{dx}\left[e^{7x}\sin(1 - x^{\pi})\right]$

(e) $\dfrac{d}{dx}\left[\cos^5\left(\dfrac{3x}{1 + \tan x}\right)\right]$