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Name: \_\_\_\_\_

QUIZ 8 

MATH 200  
September 19, 2023

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1. Find the derivative of  $f(x) = x + \cos(x) - \sec(x)$ .

2. Find the derivative of  $w = e^z + z^3 \sin(z)$ .

3. Find the derivative of  $g(x) = \frac{4x^3 - x + 2}{3x + 1}$ .

4. This problem asks you to find the derivative of  $\frac{x^5 - 1}{3}$  in two ways.

(a) Use the **constant multiple rule** as your first step:

$$D_x \left[ \frac{x^5 - 1}{3} \right] =$$

(b) Use the **quotient rule** as your first step:

$$D_x \left[ \frac{x^5 - 1}{3} \right] =$$

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Name: \_\_\_\_\_

1. Find the derivative of  $f(x) = x^3 + \tan(x) + \sin(x)$ .

2. Suppose  $y = \frac{\sec(x)}{x^2 + 1}$ . Find:  $\frac{dy}{dx} =$

3. Suppose  $z = e^w \cos(w)$ . Find:  $z' =$

4. This problem asks you to find the derivative of  $\frac{x^5 - 1}{3}$  in two ways.

(a) Use the **quotient rule** as your first step:

$$D_x \left[ \frac{x^5 - 1}{3} \right] =$$

(b) Use the **constant multiple rule** as your first step:

$$D_x \left[ \frac{x^5 - 1}{3} \right] =$$