

1. Find the indicated derivatives.

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

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

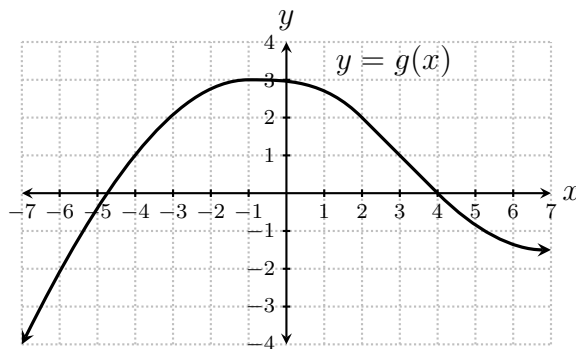
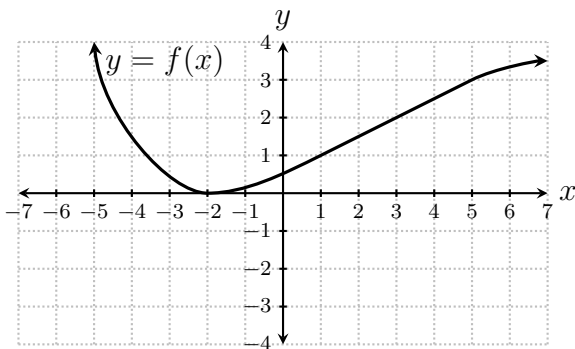
(b) Use the **constant multiple rule** as your first step to find:

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

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

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

4. Two functions  $f(x)$  and  $g(x)$  are graphed below. Suppose  $h(x) = f(x)g(x)$ . Find  $h'(3)$ .



1. Find the indicated derivatives.

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

$$\frac{d}{dx} \left[ \frac{x^2 + x}{5} \right] =$$

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

$$\frac{d}{dx} \left[ \frac{x^2 + x}{5} \right] =$$

2. Suppose  $y = \tan(x) e^x$ . Find:  $y' =$

3. Suppose  $z = w^5 \sin(w) + \sec(w)$ . Find:  $\frac{dz}{dw} =$

4. Two functions  $f(x)$  and  $g(x)$  are graphed below. Suppose  $h(x) = \frac{f(x)}{g(x)}$ . Find  $h'(3)$ .

