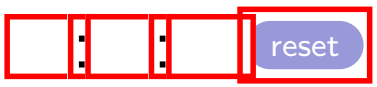
Bellwork 10/19

$$f(x) = 3\cos(x) + x$$

Find the equation of a line tangent to f at $x = 0$.



Bellwork 10/19 - Solution

$$f'(x) = -3\sin(x) + 1$$

Point-Slope Form: $y - f(0) = f'(0)(x)$

$$\Longrightarrow \boxed{y = x + 3}$$

Exercise 1

Find $\frac{\mathrm{d}y}{\mathrm{d}x}$:

$$y = \sin(3^x)$$

Exercise 1 - Solution

Exercise 2

Find $\frac{\mathrm{d}y}{\mathrm{d}x}$:

$$y = e^{\csc(x)}$$

Exercise 2 - Solution

Exercise 3

Find $\frac{\mathrm{d}y}{\mathrm{d}x}$:

$$y = \cot[\sec(x)]$$

Exercise 3 - Solution

Exercise 4

Find $\frac{\mathrm{d}y}{\mathrm{d}x}$:

$$y = e^{\sin(x^2)}$$

Exercise 4 - Solution

Exercise 5

Find $\frac{\mathrm{d}y}{\mathrm{d}x}$:

$$y = \tan\left[2^{\cot(x)}\right]$$

Exercise 5 - Solution