

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

1. Find the derivatives of the following functions.

(a)  $f(x) = \cos(x^2)$

(b)  $y = (x + e^{6x})^9$

2. Use implicit differentiation to find the slope of the tangent to the graph of  $y = 2 \sin(\pi x - y)$  at the point  $(1, 0)$ .

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

1. Find the derivatives of the following functions.

(a)  $f(x) = e^{x^2+3}$

(b)  $y = (x + \cos(x^2))^9$

2. Use implicit differentiation to find the slope of the tangent to the graph of  $2xy + \pi \sin(y) = 2\pi$  at the point  $(1, \pi/2)$ .