

Name \_\_\_\_\_

**Differentiate the following functions.**

1.  $f(t) = \cos(5t)$

2.  $y = 5 \cos x$

3.  $y = (1 - x^3)^{11}$

4.  $y = \sqrt{\cos(2x)}$

5.  $y = \cos \sqrt{2x}$

6.  $y = (3t + 1)^4 (1 - 2t)^{-3}$

7.  $F(j) = \sqrt{\frac{j-2}{3+j}}$

8.  $y = \tan^3(\cos x)$

9.  $F(\omega) = \csc^2(\cos \omega)$

10.  $F(x) = \cos(\cos(\cos(\cos(\cos(x^3 - 3x))))))$