Find the derivative of each function.

1. 
$$f(x) = \cos(x) - \sin(x) + \cos(4)$$

$$2. \ f(x) = \cos(x)\sin(x)$$

3. 
$$f(x) = \cos(x^3)$$

4. 
$$f(x) = \tan(x)^3$$

5. 
$$f(x) = \sin(x^2 + 4x - 1)^3$$

6. 
$$f(x) = \sec(x)$$
 Hint:  $\sec(x) = \frac{1}{\cos(x)}$