Chapter 3.5: Differentiating Trig Functions

Calculus I

College of the Atlantic. Fall 2014

1. Take the derivative of the following functions:

   (a) $f(x) = \tan(2x)$

   (b) $f(x) = \cos(x)\sin(x)$

   (c) $f(x) = e^{-\cos(2x)}$

   (d) $f(x) = \sin^2(x)$

   (e) $f(x) = \sin(x^2)$

2. Take the derivative of $f(x) = \sin(2x)$. Sketch $f(x)$ and $f'(x)$. Why do the graphs have the shape that they do?

3. Take the derivative of $g(x) = \sin(x^2)$. Sketch $g(x)$ and $g'(x)$. Why do the graphs have the shape that they do?