Name _____

Homework 10
Sections 3.5 & 3.6

1. (4) Compute $k'(\theta)$ for $k(\theta) = 2\tan(e^{5\theta})$.

2. (4) What is the slope of the tangent line to the graph of $g(x) = 2^e \ln(\cos x \tan x)$ at $\frac{\pi}{6}$?

3. (4) Find the derivative of $h(\phi) = \frac{\sin(4\phi)}{\phi^2}$

4. (4) Compute $\frac{d}{dt}\left(\arcsin(2t^2 - 6)\right)$.

5. (1ea) Given the function $f(x) = 2x^5 + 4x^3 + x$:

   (a) Find $f'(x)$.

   (b) Find $f(1)$.

   (c) Find $f'(1)$.

   (d) Find $(f^{-1})'(7)$.