Math 114 Fall 2016
Calculus I HW 7
Due Friday, October 28

1. Stewart 2.2.3
2. Stewart 2.2.34
3. Stewart 2.2.36
4. ($\star$) Stewart 2.2.48. Note: the greatest integer function is defined by $[\![x]\!]$ is the greatest integer $\leq x$. See page 40 of Stewart.
5. ($\star$) Prove that if f and g are functions that are differentiable at x, then

   $$(fg)'(x) = f'(x)g(x) + f(x)g'(x).$$

   Hint:

   $$f(x+h)g(x+h) - f(x)g(x) = f(x+h)g(x+h) - f(x)g(x+h) + f(x)g(x+h) - f(x)g(x).$$

6. Stewart 2.3.30
7. ($\star$) Stewart 2.3.38
8. Stewart 2.4.10
9. Stewart 2.4.16
10. Stewart 2.4.22
11. Stewart 2.4.28
12. Stewart 2.4.34
13. Stewart 2.5.2
14. Stewart 2.5.22
15. Stewart 2.5.44