

## Homework 3

Due: 10-15-13

Write the following functions as a composition of two (or more) functions, each of which you can take the derivative of using the basic rules (constant/power/sum/difference/exponential/product/quotient). Be sure to check that your decomposition works!

1.  $(x + 1)^{15}$

2.  $(4x^2 + 1)^7$

3.  $\sqrt{e^x + 1}$

4.  $\pi^{(x+2)}$

5.  $\sqrt{(x^2 5^x)^3}$

6.  $\sqrt{1 + e^{\sqrt{3+x^2}}}$