MTH 495/595 Homework Topic 12

1. Use any rules we have derived in class to determine the derivative of each of the following functions:

   a. $y = (x^2 + 1)^5$

   b. $y = \sqrt{5 + 3x}$

   c. $y = \dfrac{1}{(2x - 7)^9}$

   d. $y = \dfrac{1}{\sqrt{2x - 7}}$

   e. $y = \sin^2(x)$

   f. $y = e^{\cos(x)}$

   g. $y = \dfrac{xe^x}{\cos(x^2)}$

   h. $y = e^{3x}(x^4 - 20)$

   i. Find the equation of the line tangent to the curve in part h at x=0