

Homework 12

Due: 11/27

Exercise 1. Solve Exercises 14, 44, 46 and 54 of your book, Section 4.4 (pp 275-277)

Exercise 2. For the given functions f , give the linear approximation of f at point a and use it to estimate X . Give the percent error given by your calculator.

1. $f(x) = \tan(x)$, $a = 0$, $X = \tan(0.1)$

2. $f(x) = \frac{1}{x+1}$, $a = 0$, $X = 1/1.1$

3. $f(x) = \cos(x)$, $a = \pi/4$, $X = \cos(0.8)$

4. $f(x) = e^{-x}$, $a = 0$, $X = e^{-0.03}$

5. $f(x) = x^{1/4}$, $a = 16$, $X = 17^{1/4}$