Homework / Program

1. Homework problems: page 71: 1, 5a Due Monday Feb 6

1. Let $f(x) = x^2 - 6$ and $p_0 = 1$. Use Newton's method to find p_2.

5. Use Newton's method to find solutions accurate to within 10^{-4} for the following problems.

a. $x^3 - 2x^2 - 5 = 0, \quad [1, 4]$

2. Program 3: Implement Newton's method and use it to solve problems 6a,c,e,f. If you have difficulties finding the derivative, you are welcome to use either the Secant Method or the Method of False Positions.

6. Use Newton's method to find solutions accurate to within 10^{-5} for the following problems.

a. $e^x + 2^{-x} + 2\cos x - 6 = 0 \quad$ for $1 \le x \le 2$

c. $2x \cos 2x - (x-2)^2 = 0 \quad$ for $2 \le x \le 3$ and $3 \le x \le 4$

e. $e^x - 3x^2 = 0 \quad$ for $0 \le x \le 1$ and $3 \le x \le 5$

f. $\sin x - e^{-x} = 0 \quad$ for $0 \le x \le 1$ $3 \le x \le 4$ and $6 \le x \le 7$