Homework 3 - Math 141, Frank Thorne (thornef@mailbox.sc.edu)

Due Friday, September 14

As always, please show your work and explain yourself clearly.

Required problems:

(a) Stewart, Ch. 2.3, 13-22, 40, 42.

(b) Stewart, Ch. 2.6, 1-6.

(c) Stewart, Ch. 2.6, 15-30, 39-44 (even).

(d) Stewart, Ch. 2.7, 1, 11-14, 17-20.

(e) Stewart, Ch. 2.7, 21-22, 25-30 (even).

(f) Stewart, Ch. 2.7, 44-47.

Additional problems:

(a) Stewart, 2.3, 27-30.

(b) Stewart, Ch. 2.6, 15-23, 39-43 (odd).

(c) Stewart, Ch. 2.7, 21-22, 25-36 (odd).

Bonus (2 points): Consider the following definition of a limit: 'We say that $\lim_{x \to a} f(x) = c$ if $f(x)$ gets closer and closer to c as x gets closer and closer to a.'

What is wrong with this definition, and how might we fix it?

Hint: Is it true that $\lim_{x \to 0} x^2 = -7$?