Practice Problems

These problems are not to be handed in, but try them first; also try the even problems if you need more practice.

- From §3-6 (pages 192–194): 37, 41, 45, 47.

The answers to these should be in the back of your textbook.

Due Problems

These problems are due December 8 Thursday.

1 Using the first derivative approximation around $x = 9$, find the approximate change in the following quantities:

a. $y = \sqrt{x}$ as x changes from 9 to 9.3.

b. $t = 9/x$ as x changes from 9 to 9.02.

c. $A = (x - 9)^2$ as x changes from 9 to 8.85.

2 **Extra credit:** Use the second derivative approximation around $x = 9$ on one of the parts from Problem 1. Use a calculator to find the exact value of the change, and state which approximation (first or second derivative) is better.