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 §5-5 (pages 330&331): 1–9 odd, 11, 15, 17–25 odd;
- From §5-6 (pages 340&343): 7, 9, 11, 21, 23, 27, 33.

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

Due Problems

These problems are due November 1 Tuesday.

1 A lifeguard wants to rope off a rectangular swimming area in front of a beach, using 200 yards of floaty rope. (There is no rope along the beach itself.) What is the largest area that the lifeguard can enclose? (Show *at least* what equation you solve to find this, as well as your final answer in words.)

2 Suppose that research for a small automobile company suggests that the annual revenue from selling x cars per year will be $25\,000x - 5x^2$ dollars, while the annual cost of producing x cars per year will be $10\,000 + 5000x$ dollars.

a. If the marketing department tries to maximise revenue, what goal will they set as the number of cars to sell in a year? (Show *at least* what equation you solve to find this, as well as your final answer in words.)

b. How many cars should actually be manufactured and sold in a year in order to maximise profit for the company? (Show *at least* what equation you solve to find this, as well as your final answer in words.)