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 §6-3 (pages 379–382): 1–11 odd, 53, 55, 59, 61, 63.

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

Due Problems

These problems are due May 24 Thursday.

1 Solve for y as a function of x:

$$\frac{\mathrm{d}y}{\mathrm{d}x} = \frac{x}{y}.$$

(Include at least one intermediate step with explicit indefinite integrals. Don't forget the arbitrary constant!)

2 Solve for x as a function of t:

$$\frac{\mathrm{d}x}{\mathrm{d}t} = x^2,\ x = 1 \text{ when } t = 1.$$

(Include at least one intermediate step with explicit integrals.)

3 **Extra credit:** Find an algebraic equation (so *not* a differential equation anymore) relating p and q:

$$\frac{\mathrm{d}q}{\mathrm{d}p} = \frac{q(1-q)^2}{p(1+p)}.$$

(Include at least one intermediate step with explicit indefinite integrals. Go to `http://integrals.wolfram.com/` to find the integrals that you need.)