

HOMEWORK 4
DIFFERENTIAL EQUATIONS
DUE 08-29

Show your work!

(1) In class, we found that

$$\dot{S} = 20 - \frac{3S}{100}$$

was a model for the amount S of sugar in the mixing problem described on pp. 32–33 of the text.

Now set up a differential equation for the concentration of sugar in the same problem. You *need not* solve the equation. (HINT: Check units!)

- **Five** book problems: #1.2.1, 2, 5, 39(e), 41(a). For #1.2.5, you need only go as far as we did in class (setting up and computing the integrals); you *need not* solve explicitly for y .