Homework 15

Math 147, Fall 2017

This homework is due on WEDNESDAY (in class), Dec. 6.

1. Read Section 7.1.

2. Assume that the concentration $c(t)$ of a drug in the bloodstream at time t satisfies the differential equation
$$\frac{dc}{dt} = -0.1e^{-0.2t} .$$

   (a) Is $c(t)$ an increasing function or decreasing or neither?

   (b) Determine the function $c(t)$ under the additional assumption that the limit of the concentration is 0 as time goes to infinity.

   (c) How long does it take for the concentration to halve?

3. Section 7.1 # 12, 16, 22, 32, 42

4. (These problems are *not* to be turned in!) Section 7.1 # 7, 17, 31, 48