Math 105 - Team Homework Assignment 2, Fall 2012

- **Due Date:** September 20 or 21, 2012 (Your instructor will tell you the exact date and time.)

- Remember that all solutions to the Team Homework problems must be written out in complete sentences, showing all of your work - in much the same way that your textbook explains the example problems in each section. Please refer to more specific instruction under the “Doing Team Homework” and “Team HW Tutorial” links in the sidebar of the course website.

- *Do not forget to rotate roles and include a reporter’s page each week.*

1. Do Problem 1.3.20 on page 26.

2. Do Problem 1.3.26 on page 27.

3. Do Problem 1.4.52 on pages 35-36.

4. Do Problem 1.5.20 on page 43.

5. *(Based on 2.1.36 and 2.1.37)*

   From page 74 of the textbook:

   Hurricane intensity is measured in terms of the minimum central pressure $P$ (in mb): the lower the pressure, the more powerful the storm. Since warm ocean waters fuel hurricanes, $P$ is a decreasing function of $H$, sea surface temperature in °C. Let $P = n(H)$ be the hurricane-intensity function for present-day CO$_2$ levels, and let $P = N(H)$ be the hurricane-intensity function for future projected CO$_2$ levels.

Let $H_0$ be the average temperature in the Caribbean Sea. Explain the meaning of each of the following in terms of hurricane intensity. (Use complete sentences and remember to include units.)

   (a) $n(30)$
   (b) $n(31) - n(30)$ (Is this quantity positive or negative?)
   (c) $N(H_0)$
   (d) $N(H_0) < n(H_0)$