

# Homework 9

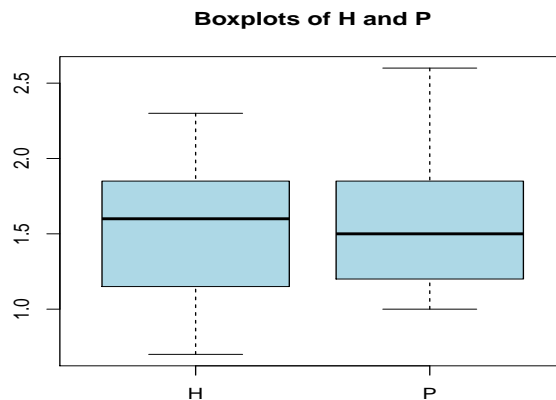
MTH 3210 Probability and Statistics  
Due Thu., May 9

Unless stated otherwise, you must **show your work** to receive full credit. Furthermore, for all **hypothesis testing** problems:

1. State  $H_o$  and  $H_a$  in terms of  $\mu$  (or  $\mu_1$  and  $\mu_2$ )
2. Give the value of the **test statistic**
3. Give the **p-value**
4. State the **conclusion**. If  $\alpha$  isn't explicitly stated in the problem, use  $\alpha = 0.05$ .

Read These Sections of the Book	Then Do These Problems
8.1	1, 4
8.2	18 (parts <i>a</i> and <i>b</i> only), 19 (part <i>a</i> only), 24
8.3	31, 34 (part <i>a</i> only), 38
9.1	Just read this section
9.2	23** (parts <i>b</i> and <i>c</i> only, and refer to the boxplots below to answer part <i>b</i> ), 24 (part <i>b</i> only)
9.3 (Optional)	See the (optional) extra credit problems below.

\*\* For **Problem 23, part *b***, refer to the boxplots below.



### Extra Credit Problems

The problems below are worth **extra credit (4 pts each)**, and can be handed in any time before the end of the semester. You must **show your work** to receive credit.

<b>Read These Sections of the Book</b>	<b>Then Do These Problems</b>
9.3	36, 39***

\*\*\* For **Problem 39, part a**, make a histogram of the **differences** and base your answer on the shape of the histogram.