Math 121 **Quiz #2 Answers** **Fall 2008**

$(9, 16, 17, 20, 20), \overline{x} = 16.7$

p. 67: 12. (10 pts) $(4, 7, 10, 10, 10), \overline{x} = 8.5$

(a) The hypotheses are

- H_0: Septaphine lowers blood pressure just as much as Cephaline does.
- H_1: Septaphine lowers blood pressure more than Cephaline does.

I allowed the null hypothesis "Cephaline lowers blood pressure more than Septaphine," although it is better to take a completely neutral stance.

(b) Given the hypotheses above, clearly H_1 was supported. However, if you had your hypotheses reversed (many did), then I expected you to say that H_0 was supported and I counted that as correct.

p. 67: 15. (10 pts) $(0, 7, 10, 10, 10), \overline{x} = 8.1$

The rejection region includes only the numbers 1 and 10. The acceptance region includes the numbers 2 through 9. To find α, use the rejection region in the null hypothesis picture (Bag E). There are only two vouchers there (out of 30), so $\alpha = \frac{2}{30}$. To find β, use the acceptance region in the alternative hypothesis picture (Bag F). There are twenty vouchers there, so $\beta = \frac{20}{30}$.