

# Hypothesis Testing

Before you make your submission  
study all material posted in Course Material for week 11 and week 12.

Here is your DB-12 assignment.

Given Hypothesis:

Ho: population mean  $\mu_0 = 200$

Ha: population mean  $\mu_0 < 200$  This is Left-Tailed test.

Population Standard Deviation  $\sigma = 50$ .

Given Significance Level is 0.10 (10%).

Critical z-value for 0.10 significance level and Left-Tailed test is (-1.28).

Rejection Region will be to the left of  $z = -1.28$ .

-3.....-2.....-1.....0.....1

Based on the sample mean  $\bar{x}$  and sample size given for you in the table below  
you should make the conclusion: reject or do not reject Ho.

Steps to follow:

1. Calculate your test statistics z-value:  $z = (\bar{x} - 200)/(50/\sqrt{n})$

2. Compare your z value with the critical value -1.28.

3. If your z-value is less than -1.28 (falls in Rejection Region) then reject Ho.

If your z-value is greater than -1.28 (does not fall in Rejection Region) then do not reject Ho.

**Show all three steps; just the answer will not be graded.**

You should use one line in the table that has the number of your position on the class roster.  
The class roster is posted in Discussion Forum 'Class Roster'.  
If you have any questions, post it in 'Ask the Professor' forum.

| Your position in the class roster | sample mean, $\bar{x}$ | sample size, $n$ |
|-----------------------------------|------------------------|------------------|
| 1.                                | 180                    | 16               |
| 2.                                | 182                    | 25               |
| 3.                                | 184                    | 36               |
| 4.                                | 186                    | 36               |
| 5.                                | 188                    | 16               |
| 6.                                | 190                    | 25               |
| 7.                                | 192                    | 36               |
| 8.                                | 194                    | 36               |
| 9.                                | 196                    | 16               |
| 10.                               | 198                    | 25               |
| 11.                               | 180                    | 36               |
| 12.                               | 182                    | 36               |
| 13.                               | 184                    | 25               |
| 14.                               | 186                    | 16               |
| 15.                               | 188                    | 36               |

| Your position in the class roster | sample mean, $\bar{x}$ | sample size, $n$ |
|-----------------------------------|------------------------|------------------|
| 16.                               | 190                    | 36               |
| 17.                               | 192                    | 16               |
| 18.                               | 194                    | 25               |
| 19.                               | 196                    | 36               |
| 20.                               | 197                    | 35               |
| 21.                               | 198                    | 36               |
| 22.                               | 180                    | 16               |
| 23.                               | 182                    | 25               |
| 24.                               | 195                    | 36               |
| 25.                               | 190                    | 30               |