Pledge:

2/1/2007 MATH 171 Name:_____
Dr. Lunsford Quiz 2 20 Points Possible

I. Below are the times spent waiting in line (in minutes) for 20 randomly selected customers during the lunch rush hour at a local fast food restaurant. Use these data to answer the questions below. (16 points total)

4.8	0.4	0.0	9.6	4.3	9.9	1.4	6.7	3.3	7.1
12.2	3.2	4.4	1.3	7.8	1.2	4.0	12.4	2.5	1.2

(a) To your right is a frequency table for the data using 7 classes. I have given you the class boundaries using the convention we discussed in class. Note that the variable X is time spent waiting in line. Please use the data above to complete the table. (4 points)

Class Limits For X	**Frequency (Count) of Customers**	**Percent Frequency of Customers**
$0 \le X < 2$		
$2 \le X < 4$		
$4 \le X < 6$		
$6 \le X < 8$		
$8 \le X < 10$		
$10 \le X < 12$		
$12 \le X < 14$		

(b) Use the table in Part (a) to graph a *percent* frequency histogram (i.e. graph the percent of customers on the vertical axis) on the axes provided below. Be sure to label your axes! (4 points)

(c) What percent of the customers had to wait in line at least 8 minutes? (1 point)

(d) On the histogram you generated above, shade the area that corresponds to the answer in part (c). Clearly indicate this on the histogram. (1 points)

(e) Find the five number summary for this data. Clearly indicate your answers. (2 points)

(f) Draw a box plot of the waiting time data. Please be sure to label your axis. (3 points)

(g) Circle all words below that describe the distribution of the waiting times. (1 point)

unimodal bimodal uniform

symmetric skewed right skewed left

Pledge:

II. One hundred subjects were timed (in minutes) as they completed two tasks, Task 1 and Task 2. Below are the histograms of the distributions of the times to complete each task. Notice that the histograms are graphed using the same horizontal and vertical scales. Please answer the following: (4 points total)

(a) Which task has a shorter mean completion time? What is that mean time, approximately (i.e. estimate the mean time from the histogram)?

(b) Which task has the smaller standard deviation? Why?

(c) Which task has a larger range of completion times? What is that range, approximately (i.e. estimate the range from the histogram)?