

Pledge:

2/1/2007
Dr. Lunsford

MATH 171
Quiz 2

Name: Solution
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. (14 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

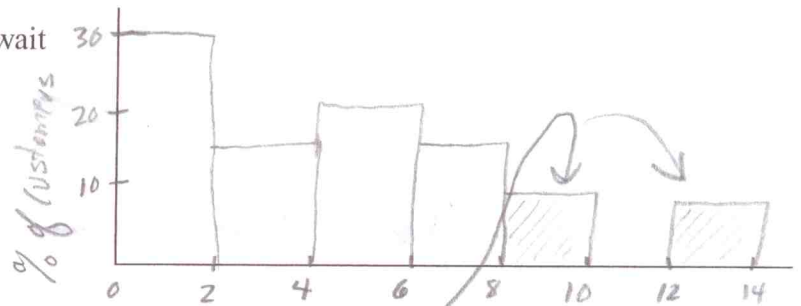
(a) To your right is a frequency table for the data using 7 classes. I have given you the class boundaries using the convention we discussed in class. Note that the variable X is time spent waiting in line. Please use the data above to complete the table. (4 points)

Class Limits For X	Frequency (Count) of Customers	Percent Frequency of Customers
$0 \leq X < 2$	6	30
$2 \leq X < 4$	3	15
$4 \leq X < 6$	4	20
$6 \leq X < 8$	3	15
$8 \leq X < 10$	2	10
$10 \leq X < 12$	0	0
$12 \leq X < 14$	2	10

(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)

$\frac{4}{20} = .2$ 20%

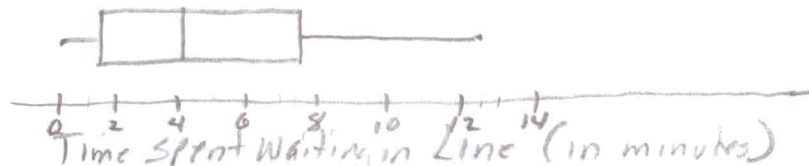


(d) On the histogram you generated above, shade the area that corresponds to the answer in part (c). Clearly indicate this on the histogram. (1 points)

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

$\min = 0, Q_1 = 1.35, \text{med} = 4.15, Q_3 = 7.45, \max = 12.4$

(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

