MAT 223, Quiz #4, Fall 2015 Name KEY

1. Use the data in the table below to find the mean and standard deviation of the data. Assuming that the data is roughly symmetric (normal), find the z-score (standard score) of the last value in the table. Round appropriately.

42.7	37.7	41.9	43.3	43.9	37.2	41.8	39.0
46.5	37.8	49.0	37.8	36.0	45.2	48.1	40.8
42.6	44.3	44.5	40.5	45.0	42.6	32.9	45.3

$\bar{x} = 41.93$

$s = 3.972$

$$z = \frac{45.3 - 41.93}{3.972} = .848$$

that value is less than one standard deviation above the mean.

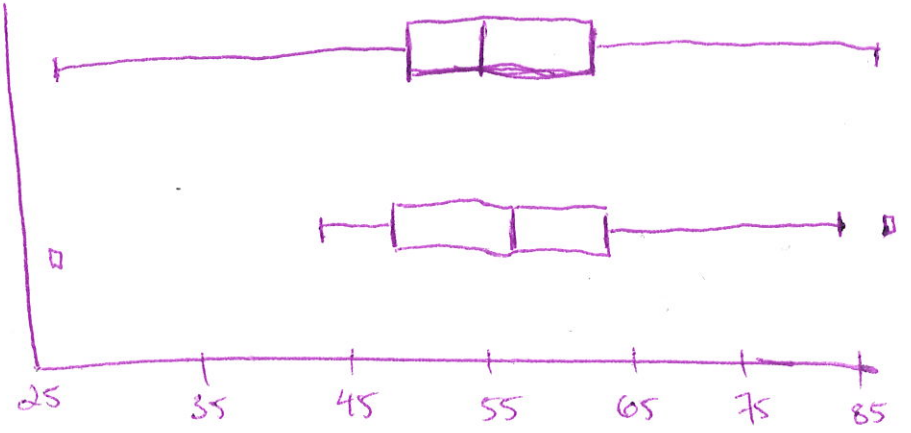
2. Use the data in the table below to create a box plot. Clearly state the five-number summary. Is the graph you obtain roughly symmetric or skewed (right or left)? Are there any outliers? If so, what are they?

50	71	59	65	44	49	61	57
47	63	73	53	84	59	51	43
71	27	56	50	56	87	54	47

min = 27
$Q_1 = 49.5$
Q_2/Med = 56
$Q_3 = 64$
max = 87

5# only

roughly symmetric w/outliers



IQR = 64 − 49.5 = 14.5

1.5(14.5) = 21.75

3(14.5) = 43.5

49 − 21.75 = 27.25

64 + 21.75 = 85.75

49 − 43.5 = 5.5

64 + 43.5 = 107.3

2 outliers (not extreme) 27 and 87.