

Show all necessary steps to receive full credit. Any incorrect statement will be penalized.

1. Math 165 students' test 1 scores are as follows:

3	5.5	11.5	15	15	17.5	21.5	22	22.5	25
26	27	27.5	28.5	29.5	36	36.5	40	43	44
45	48.5	49	49	49.5	52	53.5	55.5	58.5	58.5
58.5	59	62	66						

- Construct a grouped frequency distribution. (*hint: use the formula to find the ideal number of classes.*)
- Construct a frequency histogram.
- Construct a frequency polygon.
- Construct an ogive.
- Find mean. (i) use raw data, (ii) use grouped frequency distribution, (iii) why is different?
- Find median. (*Use raw data*)
- Find mode.
- Find standard deviation and variance. (*Write down which formula you used.*)
- Find the z-score of 49.5.
- Find Q_1 and Q_3 .
- Find all the outliers. Show your work.
- Find the value corresponds to the 69th percentile.
- Find the percentile rank of the data 27.5. Interpret the meaning of result percentile.
- List 5-data summary and construct box-plot. Then discuss the skewness of the data.