

Elementary Statistics	Name: _____
Study Guide 7	Class: _____
Due Date: _____	Score: _____

No Work ⇔ No Points

Use Pencil Only ⇔ Be Neat & Organized

1. A sample has a bell-shaped distribution with the mean of 78 and standard deviation of 6. Using the empirical rule,

(a) (2 points) Find its 68% range.

(a) _____

(b) (3 points) Find its usual range.

(b) _____

(c) (2 points) What percentage of this sample fall below 90?

(c) _____

2. The age of 35 randomly selected drivers at the time of accident is given below:

20 35 42 18 25 20 36 49 24 37 23 24 30 45 38 35 30 37
40 25 28 37 50 47 48 30 32 48 40 45 39 50 40 42 48

(a) (3 points) Construct the stem plot.

Stem(tens)	Leaf(units)

(b) (2 points) Estimate the value of s .

(b) _____

(c) (1 point) Find \bar{x} . Round to one decimal place.

(c) _____

(d) (1 point) Find s . Round to one decimal place.

(d) _____

(e) (1 point) Find the exact value for s^2 .

(e) _____

(f) (2 points) Find the 68% interval, according to the empirical rule.

(f) _____

(g) (2 points) Find the usual range, according to the empirical rule.

(g) _____

(h) (2 points) Find the z score for 20. Is this value an usual value?

(h) _____

(i) (3 points) Draw the box plot and clearly label with the five-point summary.

(j) (2 points) Find the IQR , interquartile range.

(j) _____

(k) (4 points) Find the lower and upper fences. List any outliers.

(k) _____

(l) (2 points) Find P_{90} .

(l) _____

(m) (2 points) Find the percentile ranking for 32, that is find k such that $P_k = 32$.

(m) _____

3. Consider the unfinished frequency distribution table representing quiz score in a math class.

(a) (4 points) Complete the frequency distribution table below:

Class Limits	Class Midpoint	Class Frequency	Cumulative Frequency	Relative Frequency	Percentage Frequency
10 - 24		3			
25 - 39		15			
		17			
		5			

(b) (1 point) What is the sample size for this data?

(b) _____

(c) (1 point) What is the class width for this grouped data?

(c) _____

(d) (1 point) Find \bar{x} for this grouped data. You must use class midpoints and class frequencies. Round your answer to one decimal place.

(d) _____

(e) (1 point) Find s for this grouped data. You must use class midpoints and class frequencies. Round your answer to one decimal place.

(e) _____

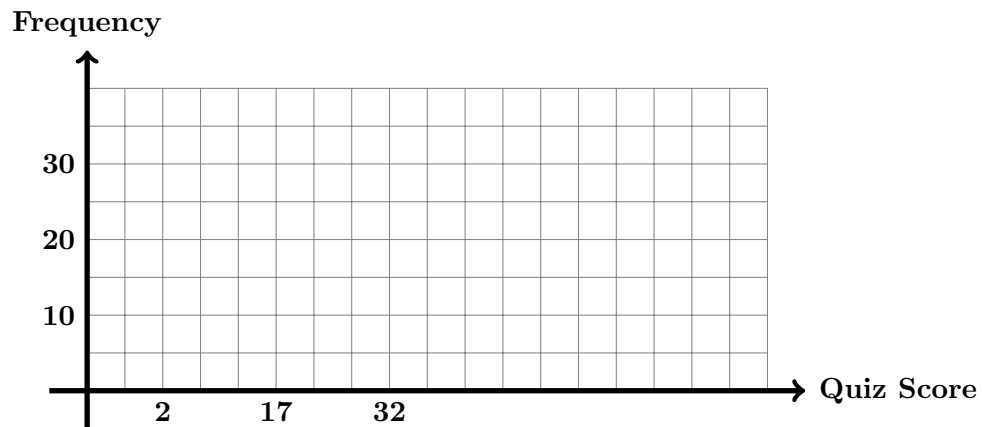
(f) (2 points) Find the exact value in reduced fraction for s^2 .

(f) _____

(g) (2 points) Find the 95% interval, according to the empirical rule.

(g) _____

(h) (2 points) Draw the frequency polygon for this grouped data. Clearly label and mark your graph.



(i) (2 points) Draw pie chart. Clearly label and mark your graph. Show the percentage for each slice of the pie chart.

