

Elementary Statistics

Name: _____

Study Guide 8

Class: _____

Due Date: _____

Score: _____

Your solutions must be consistent with class notes & resources.

Be Neat, Organized, and No Work \Leftrightarrow No Points

1. Thirty-six workers were randomly surveyed about how long it takes them to travel to work each day. The data below are given in minutes:

20 45 42 52 65 20 60 49 24 37 23 24 50 59 62 45 52 61
41 25 28 27 50 47 58 40 42 48 40 45 39 56 50 52 48 60

- (a) (1 point) Find the mode.

(a) _____

- (b) (3 points) Find the range and the midrange.

(b) _____

- (c) (1 point) Estimate the standard deviation by using the range rule of thumb.

(c) _____

- (d) (1 point) Find \bar{x} . Round your answer to a whole number.

(d) _____

- (e) (1 point) Find s . Round your answer to a whole number.

(e) _____

- (f) (2 points) Find the exact value for s^2 . Reduced fraction only.

(f) _____

(g) (3 points) Draw the box plot and clearly label all 5-Point summary.

(h) (2 points) Use the rounded answers, find the 68% interval, according to the empirical rule.

(h) _____

(i) (2 points) Use the rounded answers, find the usual range, according to the empirical rule.

(i) _____

(j) (2 points) Use the rounded answers, find the 99.7% interval, according to the empirical rule.

(j) _____

(k) (2 points) Construct stemplot.

Stem(tens)	Leaf(units)

(l) (3 points) Find P_{10} .

(l) _____

(m) (3 points) Find the percentile ranking for 48, that is to find k such that $P_k = 48$. k must be rounded to the nearest whole percent.

(m) _____

(n) (1 point) Find the class width if we wish to make a frequency distribution table with 3 classes.

(n) _____

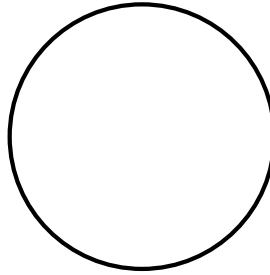
(o) (3 points) Complete the frequency distribution table below:

Class Boundaries	Class Midpoint	Class Frequency	Cumulative Frequency	Relative Frequency	Percentage Frequency

(p) (3 points) Draw the histogram. Clearly label and mark your graph.

(q) (3 points) Draw the ogive. Clearly label and mark your graph.

(r) (3 points) Draw the pie-chart. Clearly label and mark your graph.



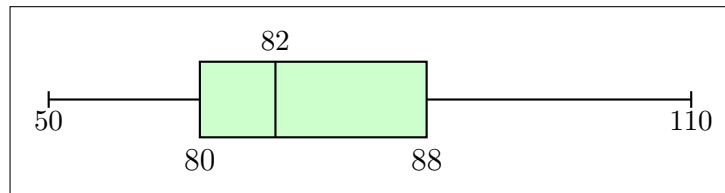
(s) (2 points) Find \bar{x} of the frequency distribution table by using class midpoints and class frequencies. Round to one decimal.

(s) _____

(t) (2 points) Find s of the frequency distribution table by using class midpoints and class frequencies. Round to one decimal.

(t) _____

2. The box plot of exam scores of 60 randomly selected students is displayed below:



(a) (2 points) How many students had a score more than 80?

(a) _____

(b) (3 points) Find the upper and the lower fence.

(b) _____

(c) (2 points) Give ranges for possible outliers.

(c) _____

"It always seems impossible until it's done." Nelson Mandela.