

Elementary Statistics	Name: _____
Study Guide 6	Class: _____
Due Date: _____	Score: _____

Your solutions must be consistent with class notes & resources.

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

1. Given: $n = 15$, $\sum x = 120$, and $\sum x^2 = 960$

(a) (2 points) Find \bar{x} . Round your answer to one decimal place.

(a) _____

(b) (3 points) Find s . Round your answer to one decimal place.

(b) _____

(c) (2 points) What do you conclude about the data elements from these results?

2. A sample of 200 exam scores has a bell-shaped distribution with the mean of 78 and standard deviation of 6. Using the empirical rule,

(a) (2 points) Find its usual range.

(a) _____

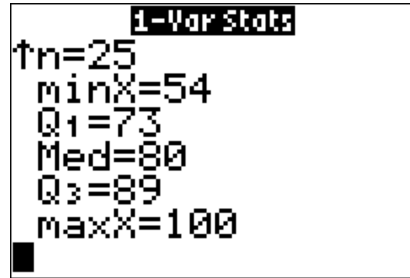
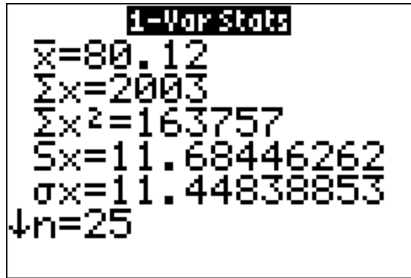
(b) (2 points) What percentage of these scores fall below 90?

(b) _____

(c) (2 points) How many of these scores fall above 66?

(c) _____

3. The following calculator displays present the basic computational statistics on a randomly selected sample.

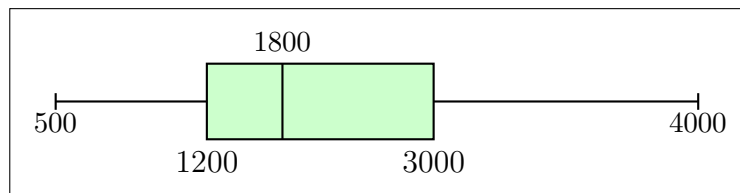


- (a) (2 points) Draw its box plot and clearly label it.

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

(b) _____

4. The box plot of monthly income of 280 randomly selected students is displayed below:



- (a) (2 points) How many students had a monthly income below \$3000?

(a) _____

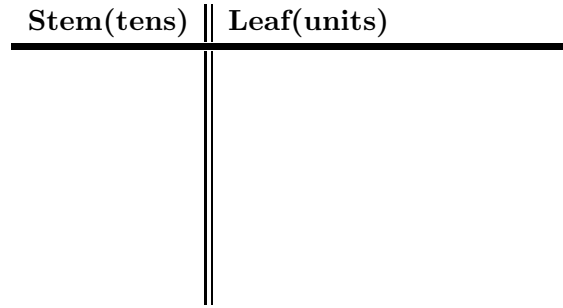
- (b) (3 points) Find the upper and the lower fence.

(b) _____

5. The age of 32 randomly selected drivers at the time of accident is given below:

20 35 42 18 25 20 36 49 24 37 23 24 30 44 38 35
 40 26 28 37 50 46 48 30 32 48 40 45 39 50 40 42

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



(b) (1 point) Find \bar{x} . Round to a whole number.

(b) _____

(c) (1 point) Find s . Round to a whole number.

(c) _____

(d) (1 point) Find the exact value for s^2 in reduced fraction.

(d) _____

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

(e) _____

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

(f) _____

(g) (3 points) Using the rounded answers, find the z score for 20. Is this value an usual value?

(g) _____

(h) (3 points) Using the rounded answers, find age of the driver with $z = 1.5$ score.

(h) _____

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

(j) (4 points) Find the lower and upper fences. Give ranges for any possible outliers.

(j) _____

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

(k) _____

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

(l) _____

Attend office hours and ask all your questions.