

Elementary Statistics

Name: _____

Study Guide 5

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. Given: $n = 20$, $\sum x = 1570$, $\sum x^2 = 125696$, minimum = 60, and maximum = 100

(a) (1 point) Find the sample range.

(a) _____

(b) (1 point) Find the sample midrange.

(b) _____

(c) (2 points) Find \bar{x} . Round your answer to a whole number.

(c) _____

(d) (2 points) Find s^2 in reduced fraction

(d) _____

(e) (2 points) Find s . Round your answer to a whole number.

(e) _____

(f) (2 points) Estimate s by using the range rule-of-thumb.

(f) _____

2. Consider the sample below:

2 0 5 5 4 10 1 5

(a) (1 point) Find the sample size.

(a) _____

(b) (1 point) Find the sample mode.

(b) _____

(c) (2 points) Find $\sum x$.

(c) _____

(d) (2 points) Find $\sum x^2$.

(d) _____

(e) (2 points) Find \bar{x} by using the formula only. Round your answer to one decimal place.

(e) _____

(f) (2 points) Find s^2 by using the formula only. Simplify your answer to a reduced fraction.

(f) _____

(g) (2 points) Find s by using the formula only. Round your answer to one decimal place.

(g) _____

3. Consider the sample below:

20 10 15 8 14 15 18 5 12 20 10 16

(a) (2 points) Find $\sum x$.

(a) _____

(b) (2 points) Find $\sum x^2$.

(b) _____

(c) (2 points) Find \bar{x} by using the formula only. Round your answer to one decimal place.

(c) _____

(d) (2 points) Find s^2 by using the formula only. Simplify your answer to a reduced fraction.

(d) _____

(e) (2 points) Find s by using the formula only. Round your answer to one decimal place.

(e) _____

(f) (2 points) Estimate s by using the range rule-of-thumb.

(f) _____

4. Scores of a math exam has a bell-shaped distribution with the mean of 84 and standard deviation of 7. Using the empirical rule,

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

(a) _____

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

(b) _____

(c) (2 points) Find its 99.7% range.

(c) _____

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

```

1-Var Stats
x̄=80.12
Σx=2003
Σx²=163757
Sx=11.68446262
σx=11.44838853
↓n=25
  
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1-Var Stats
↑n=25
minX=54
Q1=73
Med=80
Q3=89
maxX=100
  
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(a) (2 points) Find the range and the midrange.

(a) _____

(b) (2 points) Round the sample mean and standard deviation to a whole number, then find the usual range of the sample.

(b) _____

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

(d) (1 point) Find its IQR.

(d) _____

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

(e) _____