

Name Key

April 27, 2016

Statistics Review-OL

Write the letter of the term that best matches each statement. You may use a term more than once.

G 1. The median is the middle number, or the mean of the two middle numbers, of the ordered data in a set.

~~a. quartiles~~

~~b. outliers~~

~~c. range~~

d. measures of center

~~e. mode~~ value at the center or middle of a data set

~~f. gap~~

~~g. median~~

~~h. cluster~~

i. dot plot

numberline w/ dots to represent the number of numbers most frequently occurring value in a line plot

k. distribution

~~l. histogram~~

m. box plot a graph using a numberline to show the distribution using quartiles

~~n. mean~~

N 2. The mean of the data set is the sum of the data divided by the number of pieces of data.

a 3. Values that divide the data set into four equal parts are quartiles

b 4. Extremely high or low values in a data set are called outliers.

e 5. The mode is the number or numbers that occur most frequently in a data set.

f 6. A(n) gap is an empty space or interval in a set of data.

h 7. Data that are grouped together are called a(n) cluster.

k 8. The distribution of a set of data shows the arrangement of data.

C 9. The difference between the largest value and the smallest value in a data set is the range.

L 10. A histogram is used to display data that is organized in intervals.

For Exercises 1 and 2 use the following set of data:

6, 8, 9, 10, 11, 11, 12, 13, 15, and 17

1. What are the first and third quartiles of the data?

Q1: 9 Q3: 13

2. What is the interquartile range of the data?

$$Q3 - Q1 = 13 - 9 = 4$$

The table at the right shows the number of jumping jacks completed by each student in one minute.

Number of Jumping Jacks					
47	60	41	52	55	42
42	40	45	55	60	55
62	55	51	59	61	48
151	155	137	166	176	145

add all, then divide

3. Determine the mean number of jumping jacks completed. Use the mean to summarize the center of the distribution.

151-
155-
137-
166-
+176-
145-
930

51.6
18 | 930.0
- 90
30
- 18
120
- 120
0

Mean: 51.6

• More students did between 50 & 40 jumping jacks than 60.
• The range of jumping jacks is 22.

4. Represent the data in a stem-and-leaf plot.

Lowest #: 40
Highest #: 62

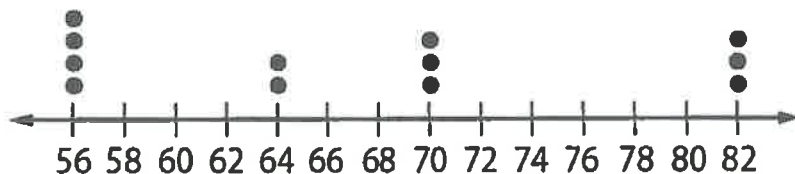
Key:
4/0 = 40

Number of Jumping Jacks

Stem	Leaf
4	0 1 2 2 5 7 8
5	1 2 5 5 5 9
6	0 0 1 2

Sophia kept track of her test scores in science class. The results are shown in the dot plot. Use the graph for Exercises 5-8.

Test Scores



Data Set: 56, 56, 56, 56, 64, 64, 70, 70, 70, 82, 82, 82

5. What is the mean of the data? Round to the nearest tenth.

$$\begin{array}{r} 56 \\ \times 4 \\ \hline 224 \end{array} \quad \begin{array}{r} 64 \\ \times 2 \\ \hline 128 \end{array} \quad \begin{array}{r} 70 \\ \times 3 \\ \hline 210 \end{array} \quad \begin{array}{r} 82 \\ \times 3 \\ \hline 246 \end{array} \quad \begin{array}{r} 1224 \\ 128 \\ + 210 \\ \hline 808 \end{array}$$

$$\begin{array}{r} 67.32 \\ 12 \overline{) 808.00} \\ \underline{72} \\ 88 \\ \underline{84} \\ 40 \\ \underline{36} \\ 40 \end{array}$$

Mean: 67.3

6. What is the median of the data?

$$\begin{array}{r} 64 \\ + 70 \\ \hline 134 \end{array}$$

$$\begin{array}{r} 67 \\ 2 \overline{) 134} \\ \underline{12} \\ 14 \end{array}$$

Median: 67

7. What is the mode of the data?

Mode: 56

8. Interpret the data presented in the graph.

- The majority of test scores were below 70.
- The range in grades is 26 points.
- 3 students made B's.

9. Adam earned 75, 88, 92, 94, and 71 on the first 5 assignments.

What was his score on the sixth assignment if the mean of the data was 85?

$$75 + 88 + 92 + 94 + 71 = 420$$

$$420 \div 5 = 84$$

90

Guess: $420 + 89 = 509$

~~$509 \div 6 = 84.8x$~~

$420 + 93 = 513$

~~$513 \div 6 = 85.5x$~~

$420 + 90 = 510$

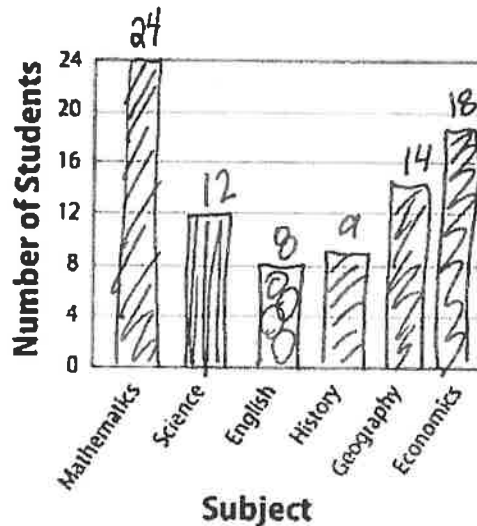
$510 \div 6 = 85x$

$420 + 92 = 512$

~~$512 \div 6 = 85.3x$~~

10. Use the table showing the number of students and their favorite subject. Represent the data in bar graph. Summarize and describe the data based distribution.

Favorite Subject	Number of Students
Mathematics	24 ✓
Science	12 ✓
English	8 ✓
History	9 ✓
Geography	14
Economics	18



- The majority of students choose math as their favorite subject.
- One more person likes History than English.
- Twice as many people like Economics than History.

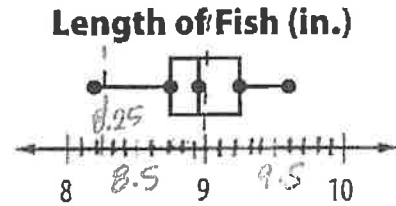
For Exercises 11 and 12, use the box plot at the right. It shows the lengths of the fish in inches that Gary caught on a fishing trip.

11. What are the first and third quartiles of the data?

$Q_1: 8.75$ $Q_3: 9.25$

12. What percent of the fish were between 8.25 and 9 inches?

About 50%



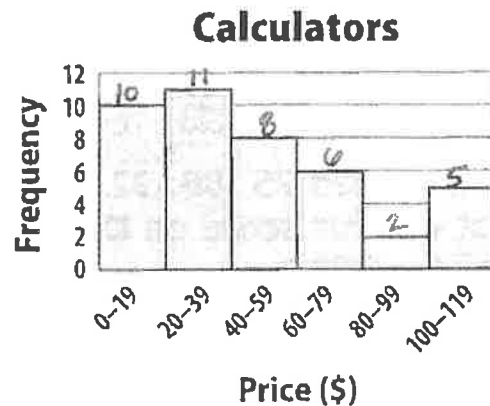
For Exercises 13 and 14, refer to the histogram that shows the prices of calculators.

13. Which interval has the least number of calculators?

$\$80-99$

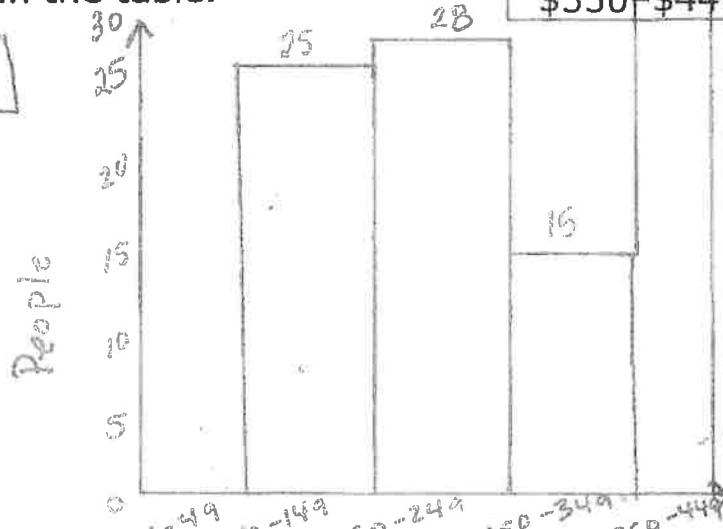
14. How many calculators cost more than \$79?

$2 + 5 = 7$ calculators



15. Julio surveyed people about the amount of money they earned during their summer jobs. The results are shown in the table. Which type of display should Julio use to show the results? Draw one using the data in the table.

Histogram



Amount Earned	People
\$50-\$149	25 ✓
\$150-\$249	28 ✓
\$250-\$349	15 ✓
\$350-\$449	32