

Read sections 2.2, 2.3, and 2.4 (mean, variance, and relative position)

1. Consider the ages of garden club members:

34, 56, 72, 88, 15, 37, 93, 56, 34, 15, 66, 62, 61, 49

a. order the ages:

b. median =

c. Q1 =

d. Q3 =

e. Range = High - Low =

f. Midrange = (High + Low)/2

g. mean: $\mu = \frac{\sum x}{n} =$

Use calculator.

h. standard deviation: $\sigma = \sqrt{\frac{\sum (x - \mu)^2}{n}} =$

Use calculator.

i. variance = $\sigma^2 =$

Use calculator.

j. Draw a boxplot using the values above:

Q0 = Low =

Q1 =

Q2 = median =

Q3 =

Q4 = High =

2. Consider a sample represented by the frequency table:

x:	12	15	16	20	21	23	30	32
f:	1	2	5	4	6	2	1	2

a. Range = High - Low =

b. Midrange = (High + Low)/2

c. mean: $\bar{X} = \frac{\sum x}{n} =$ Use calculator.

d. standard deviation: $s = \sqrt{\frac{\sum(x - \bar{X})^2}{n - 1}} =$ Use calculator.

e. variance = $s^2 =$ Use calculator.

Use your calculator for c, d, and e!

3. Consider the data from a sample of a population:

12, 13, 22, 43, 55, 55, 57, 67, 104, 122

a. median =

b. Range = High - Low =

c. Midrange = (High + Low)/2

d. mean: $\bar{X} = \frac{\sum x}{n} =$ Use calculator.

e. standard deviation: $s = \sqrt{\frac{\sum(x - \bar{X})^2}{n - 1}} =$ Use calculator.

f. variance = $s^2 =$ Use calculator.

g. What is the percentile of 22?

h. What is the percentile of 67?

4. Consider the data from a sample of a population:

19, 33, 37, 39, 71, 54

a. Complete the table

x	x^2

b. $\sum x =$

Use calculator.

c. $\sum x^2 =$

Use calculator.

d. mean: $\bar{X} = \frac{\sum x}{n} =$

Use calculator.

e. variance: $s^2 = \frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n - 1} =$

Try entering numbers in this formula.

f. standard deviation: $s = \sqrt{s^2} =$

5. Consider the ages of a men's softball team:

19, 33, 37, 39, 71, 54, 60, 44, 39, 44

a. order the ages:

b. median =

c. Range = High - Low =

d. Midrange = (High + Low)/2

e. mean: $\mu = \frac{\sum x}{n} =$

Use calculator.

f. standard deviation: $\sigma = \sqrt{\frac{\sum (x - \mu)^2}{n}} =$

Use calculator.

g. variance = $\sigma^2 =$

Use calculator.

6. A coin is tossed until it lands heads, and the number of tosses required till heads is recorded. This experiment is done many times, and the results are recorded in the table.

x:	1	2	3	4	5	6	7	8	9	10
f:	384	208	98	56	28	12	8	2	3	1

a. How many experiments were done? $n =$

b. mean: $\mu = \frac{\sum x}{n} =$ Use calculator.

c. standard deviation: $\sigma = \sqrt{\frac{\sum (x - \mu)^2}{n}} =$ Use calculator.

d. variance = $\sigma^2 =$ Use calculator.

7. A student received these grades where A=4, B=3, C=2, D=1, and F=0.

Course	Credits: f	Grade: x	f * x
Music	2	1	
Chemistry	4	3	
Physics	3	2	
Sociology	3	3	

Compute the student's GPA: $\text{GPA} = \frac{\sum f \cdot x}{\sum f} =$