

MAT1080 Worksheet #2

Name: _____

Complete this worksheet and scan it to a SINGLE PDF document before submitting it in D2L.

1. Find the mean of 5, 7, 9, 11, and 13 using the formula $\bar{x} = \frac{\sum x}{n}$,

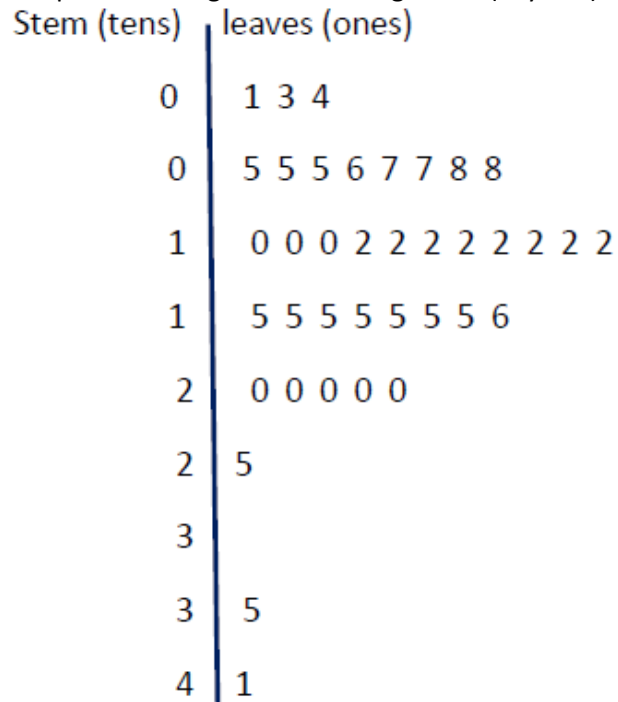
then complete the table below:

x	$x - \bar{x}$	$(x - \bar{x})^2$	x^2
5			
7			
9			
11			
13			
$\sum x =$		$\sum (x - \bar{x})^2 =$	$\sum x^2 =$

a. Find the standard deviation using the formula $s = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$ (show all calculations)

b. Find the standard deviation using the formula $s = \sqrt{\frac{n\sum x^2 - (\sum x)^2}{n(n-1)}}$ (show all calculations)

2. The Stemplot of average mammal longevities (in years) is shown in the display below:



a. Use the formula $L = \left(\frac{k}{100} \right) n$ to find Q_1 , Q_2 , Q_3 , and P_{71} in the above display (see page 116)
(show calculations for L)

b. What is the five-number summary?

c. Draw a Boxplot (to scale, free-hand drawing) of the given data set.

3. Use the formula $s = \sqrt{\frac{n[\sum(f \cdot x^2)] - [\sum(f \cdot x)]^2}{n(n-1)}}$ to find the standard deviation of the data summarized in the frequency distribution below:

Tar (mg) in Non-filtered Cigarettes	Frequency f	$x(\text{midpt})$	x^2	$f \cdot x$	$f \cdot x^2$
10 - 13	1				
14 - 17	2				
18 - 21	10				
22 - 25	7				
26 - 29	2				
TOTAL	$n =$			$\sum f \cdot x$	

HINT: Complete the table and use the values from the table to evaluate the formula s ; $n = \sum f$
 Show the calculation for the formula