1. A survey will be given to 100 students randomly selected from the freshmen class at Lincoln High School. What is the population?_____

2. A mean is known as a statistic if it is computed from the_____

3. Fifty bottles of water were randomly selected from a large collection of bottles in a company's warehouse. The large collection of bottles is referred to as the_____

4. Fifty bottles of water were randomly selected from a large collection of bottles in a company's warehouse. These fifty bottles are referred to as the_____

5. A survey will be given to 100 students randomly selected from Lincoln High School. What is the population?_____

6. The difference between $\bar{x}, s$ and μ, σ _____

7. If there are extreme values in a data set, then which one describes the data better? mean or median? _____

|	Examples	Types of Sampling
1	Principal Meyer wants to be sure she has a proportionate sample of parents based upon the grade level of their children. Which sampling method should she consider using?	
2	You are given a random list of all graduating seniors at the university. You decide to survey every five names on the list and ask what types of activities they participated in while they were at the university. This is an example of _____ sampling.	
3	Principal Meyer takes a numbered list of all students in the school and randomly selects a sample to participate. Which sampling technique does this illustrate?	
4	You wish to do a comparison study between two hospital's success rates. Instead of assigning patients to go to one or the other, you divide your sample into two groups and randomly sample based upon which hospital individuals attend for treatment. Which type of sampling are you using?	
5	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student randomly selects one of the office complexes on campus and asks all faculty who are in their offices their opinion	
6	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student takes a list of the faculty members and selects every fifth name on the list to interview.	
7	An environmental biologist is taking an inventory of the plant life in a forest. She divides a section of the forest into 2m x 2m plots, randomly selects 5 plots, and then counts the number of each type of plant that occurs in those plots.	
8	A teacher asks the students who've come early to class how much time they spend studying.	
9	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student gets a list of full time faculty, divides it into males and females instructors, and then asks two female and two male instructors.	

A. For the given data that represent the homework scores,

10   4   11   23   8   15   9   6   19   12   8   31   14   4   16   19

1) Find Mean, **(Round in 2 decimal)**   1) _____

2) Find Median, **(Round in 2 decimal)**   2) _____

3) Find Mode, **(Round in 2 decimal)**   3) _____

4) Find **Q1 , (Round in 2 decimal)**   4) _____

5) Find **Q3 , (Round in 2 decimal)**   5) _____

6) 75% of data are below what number, **(Round in 2 decimal)**   6) _____

7) 75% of data are above what number, **(Round in 2 decimal)**   7) _____

8) Find **Range , (Round in 2 decimal)**   8) _____

9) Use the number line at bottom to draw the **Box-Plot** for above data
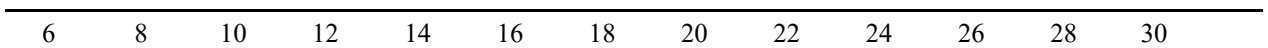
6   8   10   12   14   16   18   20   22   24   26   28   30

10) Describe the box plot (Skewed to right, left, centered or uniformed?)

B: Draw the histogram and explain the shape and also find the mean

Test Scores	Frequency $= f$	midpoint m	$f \times m$
50 – 60	12		
60 – 70	20		
70 – 80	32		
80 – 90	22		
90 -100	14		
	$\sum f = n =$ Total number of students		$\sum f \times m =$ Total scores

Mean: $\bar{X} = \dfrac{\sum f \times m}{n} = \underline{\hspace{3cm}} =$

2

Practice 1   Date:_____   Section: _____   Name: _____

1. A survey will be given to 100 students randomly selected from the freshmen class at Lincoln High School. What is the population? **All Freshmen at Lincoln High School**

2. A mean is known as a statistic if it is computed from the **Sample**

3. Fifty bottles of water were randomly selected from a large collection of bottles in a company's warehouse. The large collection of bottles is referred to as the **Population**

4. Fifty bottles of water were randomly selected from a large collection of bottles in a company's warehouse. These fifty bottles are referred to as the **Sample**

5. A survey will be given to 100 students randomly selected from Lincoln High School. What is the population? **All students at Lincoln High School**

6.

7. The difference between $\bar{x}$, s and μ, σ **The first two are info about sample called statistic and the last two are info about population called parameter.**

8. If there are extreme values in a data set, then which one describes the data better? mean or median? **Median**

	Examples	Types of Sampling
1	Principal Meyer wants to be sure she has a proportionate sample of parents based upon the grade level of their children. Which sampling method should she consider using?	stratified
2	You are given a random list of all graduating seniors at the university. You decide to survey every five names on the list and ask what types of activities they participated in while they were at the university. This is an example of _____ sampling.	systematic
3	Principal Meyer takes a numbered list of all students in the school and randomly selects a sample to participate. Which sampling technique does this illustrate?	random
4	You wish to do a comparison study between two hospital's success rates. Instead of assigning patients to go to one or the other, you divide your sample into two groups and randomly sample based upon which hospital individuals attend for treatment. Which type of sampling are you using?	stratified
5	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student randomly selects one of the office complexes on campus and asks all faculty who are in their offices their opinion	cluster
6	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student takes a list of the faculty members and selects every fifth name on the list to interview.	systematic
7	An environmental biologist is taking an inventory of the plant life in a forest. She divides a section of the forest into 2m x 2m plots, randomly selects 5 plots, and then counts the number of each type of plant that occurs in those plots.	cluster
8	A teacher asks the students who've come early to class how much time they spend studying.	convenience
9	A student is required to interview at least three faculty members to determine their opinion on the Farm Progress Show coming to Decatur. The student gets a list of full time faculty, divides it into males and females instructors, and then asks two female and two male instructors.	stratified

A. For the given data that represent the homework scores,

10   4   11   23   8   15   9   6   19   12   8   31   14   4   16   19

1) Find Mean, **(Round in 2 decimal)**   1)   **13.06**

2) Find Median, **(Round in 2 decimal)**   2)   **11.5**

3) Find Mode, **(Round in 2 decimal)**   3) **4, 8 19 Multimodal**

4) Find **Q1** , **(Round in 2 decimal)**   4)   **8**

5) Find **Q3** , **(Round in 2 decimal)**   5)   **17.5**

6) 75% of data are below what number, **(Round in 2 decimal)**   6)   **17.5**

7) 75% of data are above what number, **(Round in 2 decimal)**   7)   **8**

8) Find **Range** , **(Round in 2 decimal)**   **8)** 31 – 4 = **27**

9) Use the number line at bottom to draw the **Box-Plot** for above data
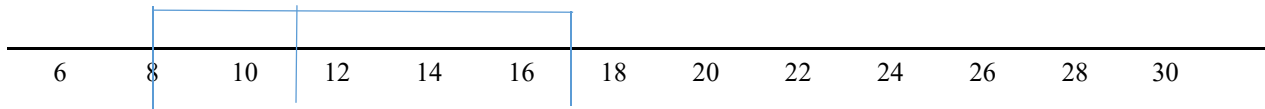
```
    6      8      10     12     14     16     18     20     22     24     26     28     30
```

10) Describe the box plot (Skewed to right, left, centered or uniformed?)

B: Draw the histogram and explain the shape and also find the mean

Test Scores	Frequency $= f$	m	$f \times m$
50 – 60	12	55	660
60 – 70	20	65	1300
70 – 80	32	75	2400
80 – 90	22	85	1870
90 -100	14	95	1330
	$\sum f = n = 100$ Total number of students		$\sum f \times m = 7560$ Total scores

Mean: $\bar{X} = \dfrac{\sum f \times m}{n} = \dfrac{7560}{100} = 75.6$