Name: _____ **Date**_____ **Period**_____

1. If I ask you to **describe** a distribution, what four things must you tell me?

_____

2. What is the best **measure of spread** when you have symmetric data? _____

3. What is the best **measure of spread** when you have skewed data? _____

4. When you have data is **symmetric**, what can you tell me about the mean, median, and mode?

5. If I my class average on a test is 75/100 and I give everybody an extra 5 points, what will happen to the **mean**? Explain.

6. If I my class average on a test is 75/100 and I give everybody an extra 5 points, what will happen to the **standard deviation**? Explain

7. What is an **advantage** of a stemplot compared to histogram?

_____

8.   Looking at the histogram below, what **percent of women** over age 40 earned a best actress award?

_____

Age of Best Actress Award Winners 1928–2009 ($n = 83$)
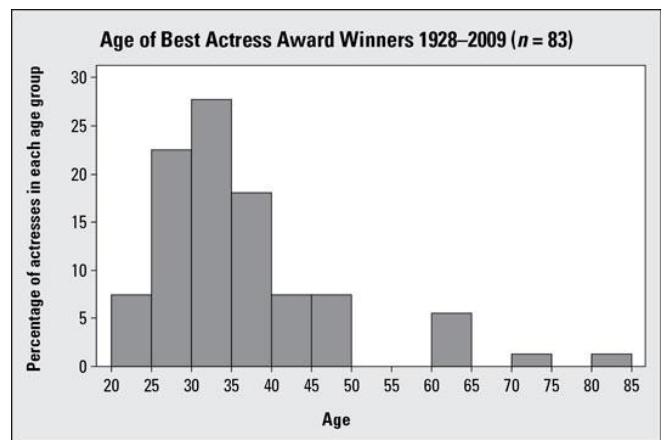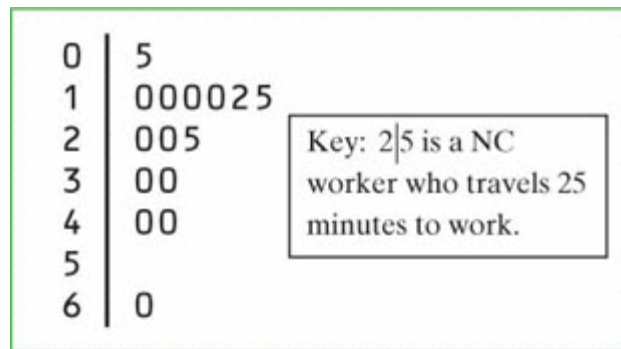
9. Here are the amounts of fat in the 9 McDonald's fish and chicken sandwiches, in order:

   4   12   16   19   19   20   22   22   35

   Which value(s) are considered **outliers**? _____

10. The *stemplot* below the time it takes for 15 workers to commute to work in North Carolina.

Time Travels to Work in North Carolina

```
0 | 5
1 | 000025
2 | 005        Key: 2|5 is a NC
3 | 00         worker who travels 25
4 | 00         minutes to work.
5 |
6 | 0
```

   a) Find the **five-number summary**:

   b) Calculate the **IQR**, show all work & formulas.

   c) Determine if there are any **outliers**, show all work & formulas.

11. The **68-95-99.7 rule** is also known as _____.

12. Decide whether each statement is **true** or **false** about Normal density curves.

a) They are not symmetric _____

b) The mean, median, and mode are equal _____

c) 100% percent of the area under the curve is within 3 standard deviations of the mean _____

13. Decide whether each statement is **true** or **false**.

a) The ***third quartile*** of a distribution can be equal to the ***median.*** _____

b) The ***mean*** of a distribution is always greater than the ***median.*** _____

c) The ***range*** of a distribution is typically smaller than the ***interquartile range.*** _____

Key Terms to Know!

14. A _____ is a bell-shaped curve. A density curve is scaled so that the area under the curve is 1. The center line of the normal density curve is at the mean μ. The change of curvature in the bell-shaped curve occurs at μ – σ and μ + σ .

15. A _____ is described by a normal density curve. Any particular normal distribution is completely specified by its mean μ and standard deviation σ .

16. The _____ or _____ gives the approximate percentage of data that fall within one standard deviation (68%), two standard deviations (95%), and three standard deviations (99.7%) of the mean. This rule should be applied only when the data are approximately normal.

17. An observation x from a normal distribution with mean μ and standard deviation σ can be transformed into a standardized value called _____ as follows:

$$z = \frac{x - \mu}{\sigma}$$

18. A _____ curve is a normal distribution with
      mean μ = 0 and standard deviation σ = 1.