

1. Listed below are the body temperatures (Fahrenheit) of 15 newborn Cocker Spaniel puppies:

101.4 100.9 100.7 101.6 103.1 99.8 101.7 102.6 102.4 103.2 106.8 104.3 105.1 100.5 101.7

(a) Make a stem plot of the data below, using the digits before the decimal point as the stems and the digits after the decimal point as the leaves. Then use the stemplot to briefly summarize the important features of the distribution of Cocker Spaniel puppy body temperatures.

(b) Determine the median, quartiles and interquartile range of the data above.

(c) The mean temperature turns out to be 102.0°. Explain why we know just by looking at the data that the s.d. must be less than five degrees. (No credit will be given for a calculation.)

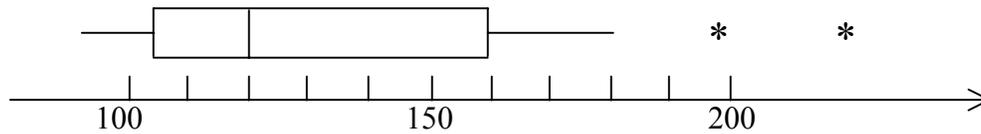
2. Circle true (T) or false (F) for each question below:

T F A drawback of the mean and standard deviation is that they are each strongly affected by outliers.

T F If the average (mean) age of one group of people is 20 years and the average age of another group of people is 30 years, then the average age of the two groups combined must be between 20 and 30 but does not have to be 25 years.

3. Give a short description of what the OLI course calls “The Big Picture of Statistics”.

4. Consider the following boxplot of the systolic blood pressures of 39 adult females:



Which of the following statements can one conclude is true? Circle them.

- (i) The minimum blood pressure is less than 100
- (ii) The maximum blood pressure is about 175
- (iii) The distribution is skewed to the left
- (iv) The mean blood pressure is about 120

5. For each row in the table below, place a check mark in the correct box:

	Quantitative Variable	Categorical Variable	Not a Variable
The weight of an automobile			
Whether an automobile is foreign or domestic			
The occupational background of a President			
The airfare to another city from Los Angeles			

6. So-Hi Airline flies only nonstop between New York and certain West Coast cities (Los Angeles, San Francisco, Seattle). Cloud Nine Airlines has routes all over the country, some short and some long. FlyMe Airlines is a small commuter airline that only flies between Los Angeles and San Francisco. The interquartile ranges of the distances of the routes that the three airlines fly are given below. Match up the airlines with the correct IQR's. Then justify your answer briefly.

<u>Airline</u>	<u>IQR</u>
So-Hi	759 miles
Cloud Nine	285 miles
FlyMe	0 miles

7. The latest federal data reveal that weights of American women have a mean of about 163 pounds and a standard deviation of about 40 pounds. The distribution is roughly symmetrical and mound shaped.

(a) Based on the information given above, about what percentage of women would you expect to weigh less than 123 pounds?

(b) Bertha weighs 223 pounds. Calculate her z-score and give a clear and simple interpretation of exactly what it tells us about Bertha's weight.

8. For each of the empty boxes in the table below, indicate **one** statistical tool or method that could be used for that type of data:

		Response Variable	
		Quantitative	Categorical
Explanatory Variable	Quantitative		-----
	Categorical		

9. Suppose you hear on the news the following report: "According to a just released study that looked at traffic data for the 2007 year, college students who sometimes use a cell phone when driving get into more automobile accidents than college students who never use a cell phone when driving." Statements such as this in the media are often imprecise, and here the underlined phrase could have two possible meanings. Explain what they are and indicate which of the two would give the most meaningful indication of the risk to college students of using a cell phone while driving.