AP Statistics
Summer Work Packet

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Welcome to AP Statistics!

This course is a college-level introductory statistics course. I expect that you will treat this course with the same seriousness and dedication that you would treat a college course.

Your **required** summer work includes the following:

1) **Read Ch. 1 & 2** of your AP Statistics book.

2) Answer the **even-numbered** problems from **Ch. 1**.

3) **Complete the attached problems**. These will be graded, so be sure to answer them thoroughly using complete sentences and legible handwriting.

   Sign here to state that you completed these problems independently, without assistance from another person, use of a book, or use of the Internet or other sources.

   _____

4) Purchase a **new or used graphing calculator** of one of the following models: TI-83/83 Plus, TI-84/84 Plus, or TI 84 Plus CE. You **must** have a graphing calculator by the first day of class. Non-TI calculators (Casio, HP Prime, etc.) or graphing calculator apps are not acceptable.

5) Purchase an **AP Statistics test prep book**. Kaplan, Princeton Review, 5 Steps to a 5, or Barron's are all good books and are easily available.

AP Statistics practice free-response questions:

1) Five hundred randomly selected middle-aged men and five hundred randomly selected young adult men were rated on a scale from 1 to 10 on their physical flexibility, with 10 being the most flexible. Their ratings appear in the frequency table below. For example, 17 middle-aged men had a flexible rating of 1.

Physical Flexibility Rating	Frequency of Middle-Aged Men	Frequency of Young Adult Men
1	17	4
2	31	17
3	49	29
4	71	39
5	70	54
6	87	69
7	78	83
8	54	93
9	34	73
10	9	39

a. Display these data graphically so that the flexibility of middle-aged men and young adult men can be easily compared.

b. Based on an examination of your graphical display, write a few sentences comparing the flexibility of middle-aged men with the flexibility of young adult men.

2) The summary statistics for the number of inches of rainfall in Los Angeles for 117 years, beginning in 1877, are shown below.

N	MEAN	MEDIAN	TRMEAN	STDEV	SE MEAN	MIN	MAX	Q1	Q3
117	14.941	13.070	14.416	6.747	0.624	4.850	38.180	9.680	19.250

a. Describe a procedure that uses these summary statistics to determine whether there are outliers.

b. Are there outliers in these data? _____

Justify your answer based on the procedure that you described in part (a).

c. The news media reported that a particular year were only 10 inches of rainfall. Use the information provided to comment on this reported statement.

3) At a school field day, 50 students and 50 faculty members completed an obstacle course. Descriptive statistics for the completion times (in minutes) for the two groups are shown below.

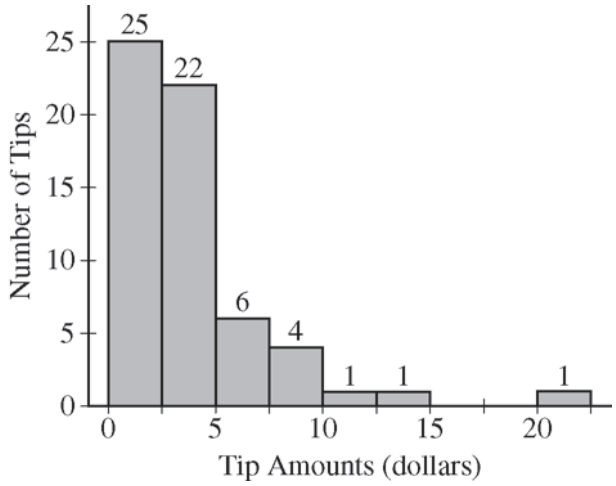
	Students	Faculty Members
Mean	9.90	12.09
Median	9.25	11.00
Minimum	3.75	4.50
Maximum	16.50	25.00
Lower quartile	6.75	8.75
Upper quartile	13.75	15.75

a. Use the same scale to draw boxplots for the completion times for students and for faculty members.

b. Write a few sentences comparing the variability of the two distributions.

c. You have been asked to report on this event for the school newspaper. Write a few sentences describing student and faculty performances in this competition for the paper.

4) Robin works as a server in a small restaurant, where she can earn a tip from each customer she serves. The histogram below shows the distribution of her 60 tip amounts for one day of work.



a. Write a few sentences to describe the distribution of tip amounts for the day shown.

b. One of the tip amounts was $8. If the $8 tip had been $18, what effect would the increase have had on the following statistics? Justify your answers with words and/or calculations.

The mean:

The median: