

Give your answers in the space provided! Answers given elsewhere will not be graded!

1. Identify the Who, What, Where, When, Why and How of the data in the example below or note the ones that were not provided!

The GALLUP Poll interviewed 1423 randomly selected American citizens and reported that when "asked which type of content bothers them most on TV, 44% of Americans identify 'violence", 23% choose "loud and profane language' while 22% say 'sexual situations'. [Sept. 10, 1999]"

WHO:

WHAT:

WHERE:

WHEN:

WHY:

HOW:

2. Circle the best way to **identify** the given variables:

- | | | | | |
|------------------------|-----------------|------------------|-------------|---------|
| (a) Age: | Quant/ discrete | Quant/continuous | Qualitative | Ordinal |
| (b) Weight | Quant/ discrete | Quant/continuous | Qualitative | Ordinal |
| (c) Gender | Quant/ discrete | Quant/continuous | Qualitative | Ordinal |
| (d) Zipcode | Quant/ discrete | Quant/continuous | Qualitative | Ordinal |
| (e) Room number | Quant/ discrete | Quant/continuous | Qualitative | Ordinal |

3. Suppose you have scores of 70, 75, 80 and 70 on quizzes in your statistics class. What score would you need to get on the next quiz to have a 78 average?

4. (a) Find the mean and standard deviation for the following data.

0 2 4 6 8 10

(b) How could you increase the standard deviation by simply changing values without changing the range and the number of elements! Provide an example!

5. **Fill in the blanks! Do your calculations in the space provided! USE the table in part (b)!**

(a) The pulse rate for adults is normally distributed with mean 73 beats/minute and with a standard deviation of 8 beats/minute. My pulse rate is 67 beats /minute. The z-score of my pulse rate is _____. That means that my pulse rate is _____ standard deviation _____ the mean.

Calculations:

(b) Given a normal density with mean 73 and standard deviation 8 the % of values to the right of 67 would be equal to the % of values to the _____ of _____ in the standard normal density. Therefore we are able to find this percentage using our table to be equal to _____. This means that my pulse rate is smaller than _____ percent of the pulse rates in the adult population.

Calculations:

6. The number of years of teaching is listed for 19 high-school teachers below.

16	22	1	32	15
4	18	6	20	14
17	19	16	10	21
28	14	36	18	

(a) Create a **stem-and-leaf plot**.

(b) Find the **five number summary**.

(c) Find any **outliers!**

(d) Create a **boxplot**.

Part II.

Use your *ActivStats CD* to answer the following questions!

Lesson 3. Homework MRA-6. Sat Data

- (1) Make a graph to display the distribution of the variable: *Dollars Per Pupil*.
 - (2) Describe the shape of the distribution.

 - (3) Identify the top 5 spenders in education!

 - (4) Create a table showing *Teachers Pay* and *Dollars Per pupil* for each *State*! Why do you think these states spend so much on education? Give the average teachers' salaries for the top five spenders in education to support your argument!

 - (5) Is the average teacher's salary higher or lower in the Pacific region (PAC) than in the nation in general and what are the exact figures?
 - (6) Which region has the highest average teacher's pay?
 - (7) Give **step by step directions** on how to create boxplots showing the teacher's pay for the different regions in Data Desk!
 - Step 1.

 - Step 2.
- Extra Credit:** Create a y by x dotplot for Percent of students taking the SAT versus Dollars Per Pupil! Is it true that states who spend more on education have a larger percentage of students taking the SAT? Comment on why or why not based on the dotplot!
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LESSON 6. Homework MCS-2.

(1) *Create side by side boxplots and calculate summary statistics* for SAT scores in 1975 and 1999.

(1) Compare the medians for the two boxplots! Exact figures please!

(2) Compare the variability of the SAT scores in terms of IQR's and ranges, again cite exact values!

(4) Compare the shapes of the distribution in terms of skewedness for 1975 and 1990! What do you think : the distribution of the SAT scores in 1990 is more or less skewed than the scores in 1975? What could be the reason for the change?
