

Math 100
Fall, 2008

Name _____

Homework #16
Due Monday, November 24
No late papers accepted! No excuses!

1. The following data give the number of cars that stopped at a service station during each of the 10 hours observed.

29 35 44 31 25 18 18 27 39 34

Find:

Mean _____ Median _____ Mode _____

Range _____ St Dev _____ Variance _____

Q1 _____ Q3 _____ IQR _____

Are there any unusual values? Why or why not?

2. The following table gives the frequency distribution of the number of cars owned by 100 households.

# of Cars Owned	# of Households
0	12
1	40
2	30
3	15
4	3

- a) Construct a relative frequency table.
b) Construct a cumulative frequency table.
c) Find the mean, median, and mode.
3. Suppose all 100 employees of a company were asked whether they are in favor of or against paying high salaries to CEOs of US companies. The table below summarizes the responses.

	<u>In Favor</u>	<u>Against</u>
<u>Male</u>	15	45
<u>Female</u>	4	36

- a) If one person is randomly selected, find
- the probability that the person is in favor.
 - the probability that the person is a male
 - the probability that the person is a male and in favor
 - the probability that the person is a male or in favor

- v) the probability that the person is a male given that they are in favor
 - vi) the probability that the person is in favor given that the person is a male
- b) If two people are randomly selected, find the probability that both are male.
- c) Are the events “being a male” and “being in favor” mutually exclusive events? Why or why not?
4. One long distance telephone plan has a monthly fee of \$15.00 and a rate of \$0.05 cents per minute. A second long distance telephone plan has a monthly fee of \$10.00 and a rate of \$0.075 cents per minute.
- a) Construct a model for both plans.
 - b) Graph both models.
 - c) Find the point where the cost of both models is the same.
 - d) Discuss which would be the better plan. When? Why?