

Math 206 - Quiz 5

October 6, 2010

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (2 points) Jason takes home \$4000 per month. His earnings are budgeted as follows: \$1000–mortgage, \$200–insurance, \$600–food, \$200–auto gas & maintenance, \$600–utilities, \$300–loan payment, \$450–savings, and the rest is reserved for miscellaneous expenses. Construct a circle graph displaying Jason's budget. Why is a circle graph the best type of display for this data?

SEE BOTTOM OF BACK SIDE...

A circle graph is one of the best types of displays for showing portions of a whole.

2. (2 points) Consider the following collection of test scores:

~~73, 51, 73, 89, 91, 77, 65, 54, 55, 87, 71, 73, 80, 90, 73, 50, 61, 73~~

- (a) Construct a stem-and-leaf plot displaying this data.

TEST SCORES	
5	0145
6	15
7	1333337
8	079
9	01

- (b) Compute the mean, median, mode, and standard deviation. (You may use your calculator.)

DIRECTLY FROM CALCULATOR...

$$\text{MEAN} = 71.\bar{4}, \quad \text{MEDIAN} = 73, \quad \text{MODE} = 73,$$

$$\text{STD DEV} = 12.902$$

3. (1 point) Fred took four 100-point tests in Calculus I, three 100-point tests in Calculus II, four 100-point tests in Calculus III, and one 100-point test in Differential Equations. His test means in these classes were 78, 64, 80, and 90. What is his overall test mean?

$$\bar{X} = \frac{4(78) + 3(64) + 4(80) + 90}{12} = 76.\bar{6}$$

MORTGAGE \$1000 $\rightarrow \frac{1000}{4000} = 25\%$
 INSURANCE \$200 $\rightarrow \frac{200}{4000} = 5\%$
 FOOD \$600 $\rightarrow \frac{600}{4000} = 15\%$

AUTO \$200 $\rightarrow \frac{200}{4000} = 5\%$
 UTILITIES \$600 $\rightarrow \frac{600}{4000} = 15\%$
 LOAN \$300 $\rightarrow \frac{300}{4000} = 7.5\%$
 SAVINGS \$450 $\rightarrow \frac{450}{4000} = 11.25\%$
 REST \$650 $\rightarrow \frac{650}{4000} = 16.25\%$

