

Math 115 - Quiz 3

September 11, 2014

Name key

Score _____

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

1. (1 point) Joanna sells childrens' t-shirts. One morning she sold 14 shirts—their sizes are shown below.

6, 10, 8, 12, 12, 8, 12, 6, 10, 12, 12, 12, 6, 12

Someone asked Joanna the size of her average customer. Should she report the mean, median, or mode? Why?

THE MODE IS PROBABLY BEST. IN THIS CONTEXT, AVERAGE CUSTOMER PROBABLY REFERS TO MOST COMMON CUSTOMER. NOT ONLY THAT, BUT SIZES ARE JUST LABELS --- THE MEAN & MEDIAN ARE NOT APPROPRIATE.

2. (4 points) The frequency distribution shown below gives the salaries (in thousands of dollars) of the employees at a small company.

Salary (thousands of \$)	Frequency
12.5–27.9	5
28.0–43.4	13
43.5–58.9	8
59.0–74.4	0
74.5–89.9	2

- (a) Determine the class midpoints.

20.2, 35.7, 51.2, 66.7, 82.2

- (b) Use class midpoints to compute the mean salary.

$$\bar{x} \approx \frac{5(20.2) + 13(35.7) + 8(51.2) + 0(66.7) + 2(82.2)}{28} = \frac{1139.1}{28}$$

- (c) Use class midpoints to compute the median salary.

$$\text{Med} \approx \frac{14^{\text{th}} + 15^{\text{th}}}{2} = \frac{35.7 + 35.7}{2} = 35.7$$

$$\approx 40.68$$

- (d) Which is a better measure of center, the mean or the median? Why?

THE MEDIAN IS BETTER BECAUSE IT IS

LESS AFFECTED BY THE 2 HIGHER SALARIES.