6. Joey's first 14 quiz grades in a marking period were:

86 84 91 75 78 80 74 87 76 96 82 90 98 93

a. Calculate the mean. $\dfrac{1190}{14} = 85$

b. Find the 5 number summary and draw a box and whisker plot.

Min = 74

$Q_1 = 78$

M = 85

$Q_3 = 91$

Max = 98

74, 75, 76, 78, 80, 82, 84, 86, 87, 90, 91, 93, 96, 98

Q_1 Q_3

c. Suppose Joey has an unexcused absence for the fifteenth quiz and he receives a score of zero. Determine his final quiz average. Write a sentence about the effect of the zero on Joey's quiz average.

$\dfrac{1190}{15} = 79.3$. His zero skews the mean a lot. The median only goes down 1, to 84.

7. For questions 1 – 5, refer to the box & whisker graph below which shows the test results of a math class.

Test Scores (as %) for 6th Period

38   72   88   96   102

a. What was the high score on the test?

102

b. What percent of the class scored above a 72?

75%

c. What was the median score on the test?

88

d. What percent of the class scored between 88 & 96?

25%

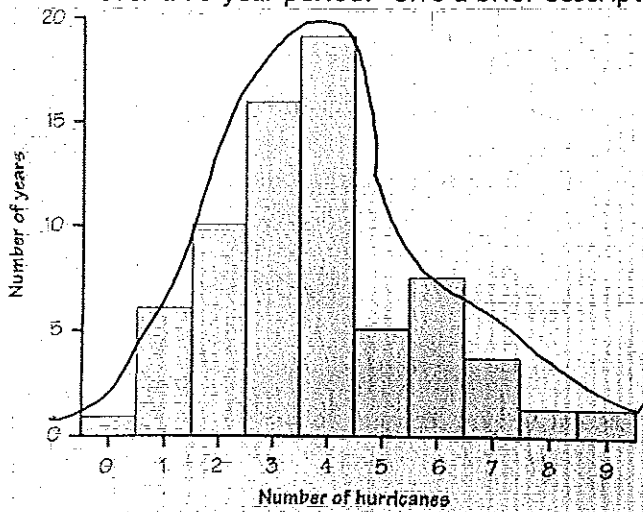e. Do you think that this test was too hard for the students? Explain.

No. Do retakes !!

8. Suppose a major baseball team's mean yearly salary for a player is $1.2 million, and that the team has 25 players on its active roster. What is the team's annual payroll for players? If you knew only the median salary, would you be able to answer the question? Why or why not?

$$1.2 \cdot 25 = \$30 \text{ million total payroll.}$$

Can't use median because it isn't the average. The data is probably skewed

9. The histogram shows the number of hurricanes reaching the east coast of the United States each year over a 70-year period. Give a brief description of the overall shape of the distribution (CUSS).

Has a right skew

Centers are
$\mu \approx 4.5$
$M = 3$

10. A study of the size of jury awards in civil cases (such as injury, product liability, and medical malpractice) in Chicago showed that the median award was about $8000. But the mean award was about $69,000. Explain how this great difference between the two measures of center can occur.

The mean is much bigger than the median because the data is skewed. Most malpractice awards are around $8000, but a few huge settlements will skew the mean.