

Sample quiz

Math 142 - Fall 2003

Quiz # 2

Section 10.2

Partial credit is based on work shown!

7pts

NAME: Answers

15

Seat: _____

1. A student has these scores on her quizzes for this semester.

4 5 $\overset{Q_1}{10}$ 11 11 | 12 13 $\overset{Q_3}{14}$ 15 15

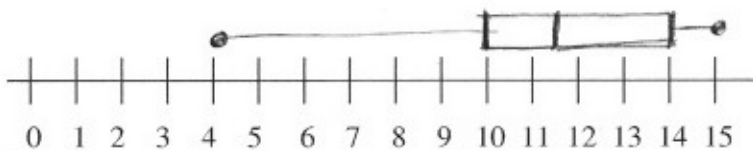
- a. What is her **mean** score?
 $110/10 = 11$
- b. What is her **median** score?
 11.5
- c. What are the **lower and upper quartiles**?
 $\frac{10}{14}$
- d. Using the scale below, make a **box plot** with whiskers to show the distribution of the scores.

Find fences

$$1.5(Q_3 - Q_1) = 1.5(14 - 10) = 1.5(4) = 6$$

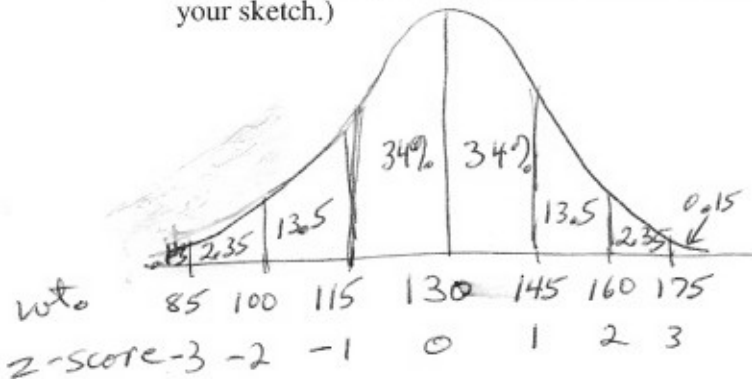
$$\text{Lower fence} = Q_1 - 6 = 10 - 6 = 4$$

$$\text{Upper fence} = Q_3 + 6 = 14 + 6 = 20$$



6pts

2. a. If the average teenage female weighs 130 pounds and the standard deviation of weights in this age group is 15 pounds, draw a sketch of the **normal distribution** (Include a % in each part of your sketch.)



b. Approximately what % of the girl's weights are within two standard deviations of the mean? 95%

$$(13.5 + 34 + 34 + 13.5)$$

c. What **weight** would have a **z-score** of 2?

$$160$$

d. A z-score of 2 is what **percentile**?

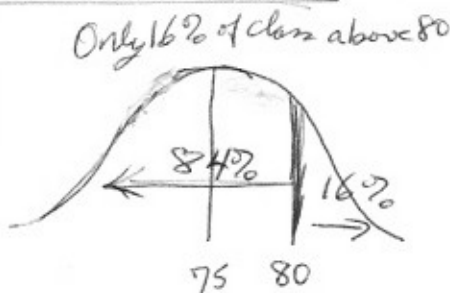
$$100\% - 2.5\% = 97.5\%$$

$$\text{or } 50\% + 34\% + 13.5\% = 97.5\%$$

2pts

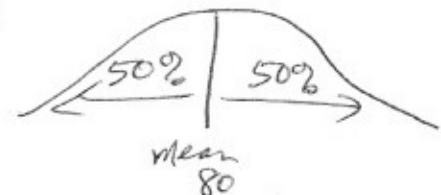
3. When comparing test results for two different classes, Mr. Jones determined that class 1 had a mean of 75 and standard deviation of 5 but class 2 had a mean of 80 and had a standard deviation of 9. What does this tell him about these classes?

Class 1
mean = 75
s = 5



$z=1$
84th percentile

Class 2
mean = 80
s = 9



50% of class above 80