On a standardized test your score was reported to be in the 90th percentile.

What does this mean?

Your score was better than 90% of all those who took the test.

Percentile doesn't tell you your actual score on the test!!

Percentile:

A number that represents the percent of data that falls below a given value.

If you tested at the 85th percentile that means that you scored higher than 85% of those taking the test.

Or you could say that 85% of those testing ended up below your score.

Or you could say that only 15% of those testing scored higher than you.

12, 9, 8, 15, 20, 3, 17, 9, 10, 14

First put the data in order!

1 2 3 4

3, 8, 9, 9, 10, 12, 14, 15, 17, 20

1. 17 is at what percentile?

8 of 10 #'s are below 17 → 80th percentile

2. What number is at the 40th percentile?

40% of the data = (.40)(10) = 4 → 10 it has 4 of the 10 #'s below it

3. 9 is at what percentile?

2 of 10 #'s are below 9 → 20th percentile

1 2 3 4 5 6 7 8 9 10 11 12

24, 28, 29, 32, 33, 38, 38, 39, 41, 43, 44, 56, 57, 60, 68

1. What percentile is 38 at?

$\frac{5}{15}$ below 38 → 33rd percentile

2. What value is at the 80th percentile?

80% of all data = (.80)(15) = 12

57 has 12 of the 15 #'s (80%) below it

Could you score at the 100th percentile?

Not using our definition of percentile.
You can't score better than 100% of all those who took the test.
(you can't score better than youself!)

You can now finish Hwk #32 Sec 12-3

Pages 664

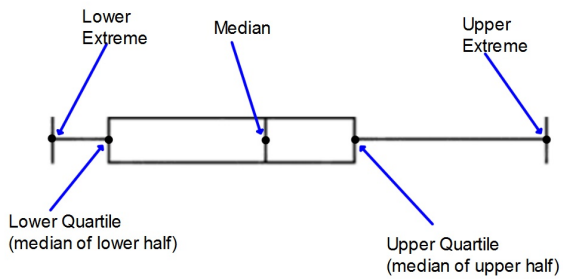
Problems 8-12, 14-18

Box-and-Whisker Plot:

- Quartiles
- Extremes
- Median
- Upper 25%
- Lower 25%
- Middle 50%

Box-and-Whisker Plot:

Made using the 5-number summary



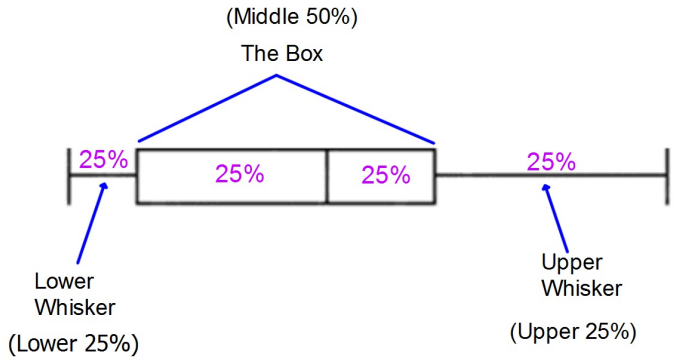
Upper Extreme

Upper Quartile (median of upper half)

Lower Extreme

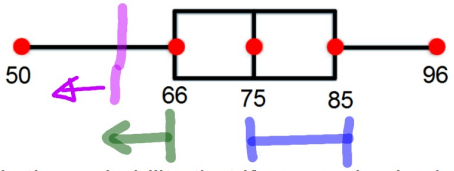
Lower Quartile (median of lower half)

Median



Regardless of how big or small each part of a Box-and-Whisker is, it still represents 25% of the data.

Use the Box-and-Whisker Plot shown below, made from the test scores of a teacher's class, to answer the following questions.

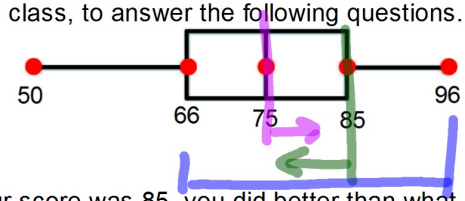


4. What is the probability that if you randomly chose one of the scores it would be below 66? 25%

5. If your score was 57, what percent of the class did worse than you? less than 25%

6. If there were 20 students in this class how many of them scored from 75 to 85? 25% of 20 = (.25)(20) = 5

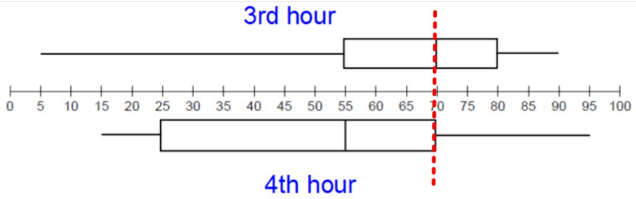
Use the Box-and-Whisker Plot shown below, made from the test scores of a teacher's class, to answer the following questions.



1. If your score was 85, you did better than what percent of the class? 75%

2. If your score was 75, what percent of the class did better than you? 50%

3. What percent of the class had scores between 66 and 96? 75%



Make some statements to COMPARE and CONTRAST 3rd and 4th hour scores to help answer the following question:

Which class did better?

3rd hour did better because OR 4th hour did better because

Using the score of 70, you could explain why third hour did better this way: Half of 3rd hour score at least a 70 but only one-fourth of 4th hour was able to score at least a 70.