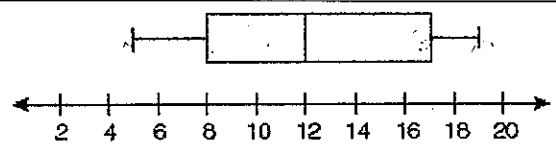


Name Key
 8A: Algebra 1

Date _____
 Period _____

Homework

1) Answer the following questions according to the box-plot below



- a) What is the median? ^{Q₂} 12
- b) What is the lower quartile? ^{Q₁} 8
- c) What is the upper quartile? ^{Q₃} 17
- d) What is the minimum value? ^{LE} 5 ^{UE - LE}
19 - 5
- e) What is the maximum value? ^{UE} 19
- f) What is the range of the data? 14
- g) What percentage of the data is below the upper quartile? 75%
- h) What percentage of data is located between the lower quartile and the median? 25%
- i) What percentage of the data is above the median? 50%
- j) What percentage of data is below the lower quartile? 25%
- k) What is the interquartile range? $Q_3 - Q_1 = 17 - 8 = 9$

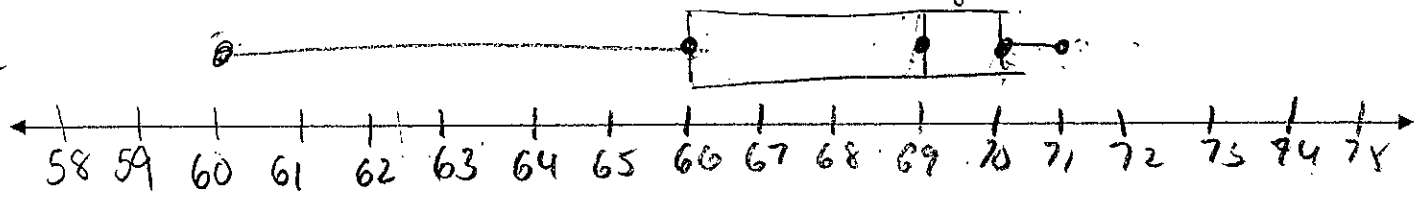
2) Listed below are the heights in inches of boys on an 8th grade basketball team. Make a box plot of these data :

60, 60, 66, 66, 66, 67, 68, 69, 69, 69, 69, 70, 70, 71, 71, 71

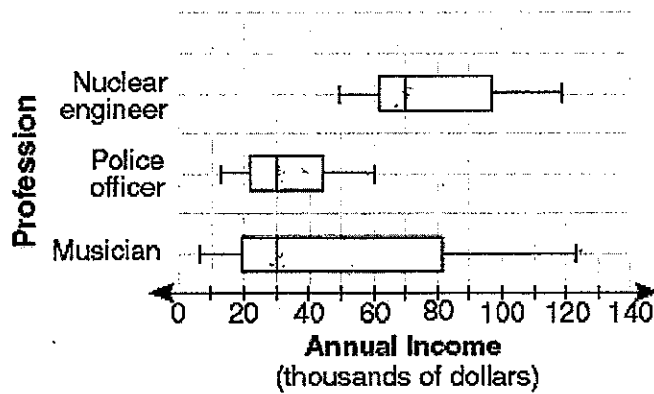
5 # Summary {
 min 60
 1st Q 66
 med 69
 3rd Q 70
 Max 71

$IQR = 70 - 66 = 4$

Heights of boys



3) The accompanying box-and-whisker plots can be used to compare the annual incomes of three professions.



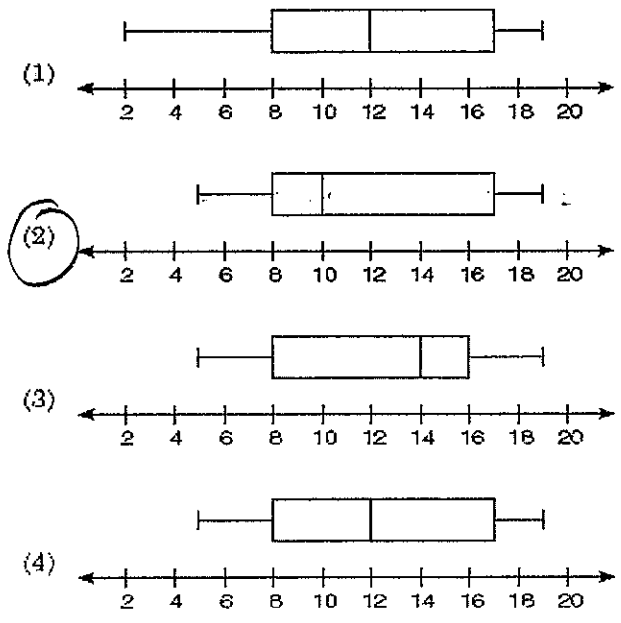
Based on the box-and-whisker plots, which statement is true?

- (a) The median income for nuclear engineers is greater than the income of all musicians.
- (b) The median income for police officers and musicians is the same.**
- (c) All nuclear engineers earn more than all police officers.
- (d) A musician will eventually earn more than a police officer.

4) The data set 5, 6, 7, 8, 9, 9, 9, 10, 12, 14, 17, 17, 18, 19 represents the number of hours spent on the Internet in a week by students in a mathematics class. Which box-and-whisker plot represents the data?

5 # summary

Min	5
Q ₁	8
Q ₂	10
Q ₃	17
Max	19

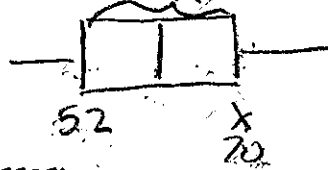


5) The interquartile range of a data set is 18. The first quartile is 52. Which value could be the median?

- (a) 25 (b) 34 (c) 61 (d) 97

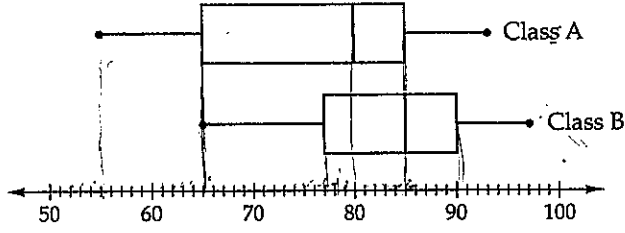
$Q_3 - Q_1$
 (c) 61

$\frac{18}{2} = 9$
 $52 + 9 = 61$



$X - 52 = 18$
 $+ 52$
 \hline
 $X = 70$

6) These box-and-whisker plots show test scores for two classes:



Which statement is FALSE?

- (a) The interquartile range is greater for class A than for class B.
 (b) The second quartile is higher for class B than for class A.
 (c) The lowest score was in class A.
 (d) Class A did better than class B.

$Q_3 - Q_1$
 IQR A: $85 - 65 = 20$
 Q_2 A: 75
 LE A: 55

$Q_3 - Q_1$
 IQR B: $90 - 77 = 13$
 Q_2 B: 84
 LE B: 65

↑ better
 higher
 more values
 higher

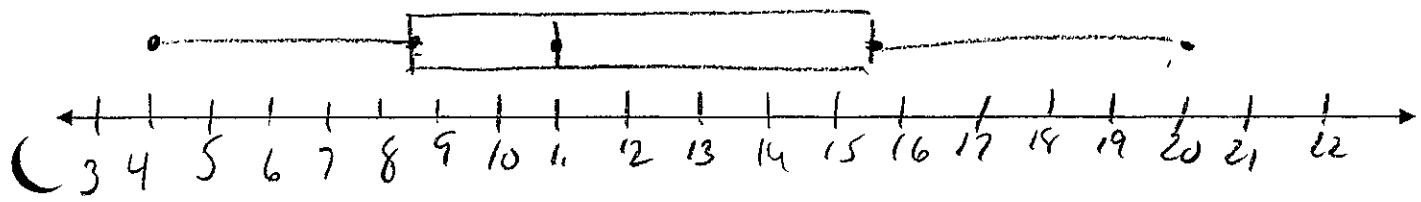
Construct a box-and-whisker plot for the data set below:

12, 15, 9, 5, 17, 16, 10, 11, 4, 8, 9, 20, 12

min 4
 Q_1 8.5
 Q_2 11
 Q_3 15.5
 Max 20
 5 # Summary

$IQR = 15.5 - 8.5 = 7$

Data



32

