Name: _____   Date: _____

Interpreting Box-and-Whisker Plots

1) Below are the prices of snowboards at two competing snowboard stores:

Middletown Snowboards   **Snowboard Central**
345, 350, 356, 360, 375, 405   **343, 370, 386, 392, 395, 402**
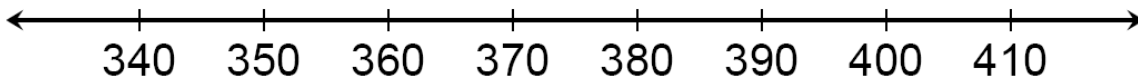
a) Identify the 5 main statistics of each set of data.

Middletown Snowboards   Snowboard Central

b) Draw a double box-and-whisker plot of the above data on the scale below:

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←——+——+——+——+——+——+——+——+——→
   340  350  360  370  380  390  400  410
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c) What is the median price for a snowboard at Middletown Snowboards?

What is the lowest price you could pay for a snowboard at Snowboard Central?
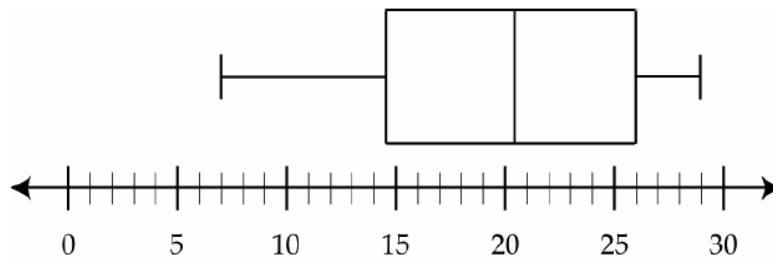
What is the most expensive board at Middletown Snowboards?

What is the range of prices for snowboards at Snowboard Central?

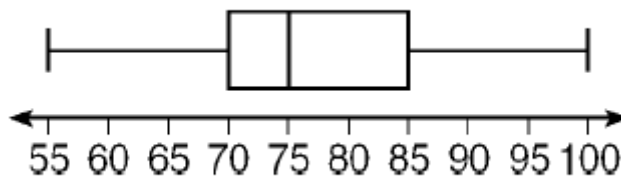Which price represents the 75th percentile for Middletown Snowboards?

Which store would you rather buy a snowboard from? Why?

2) The accompanying box-and-whisker plot represents the cost, in dollars, of twelve CD's.
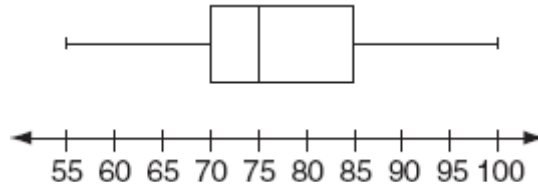

a) Which cost is the upper quartile?

b) What is the range of the costs of the CD's?

c) What is the median?

d) Which cost represents the 100th percentile?

e) How many CD's cost between $14.50 and $26.00?

f) How many CD's cost less than $14.50?

3) The accompanying box-and-whisker plot represents the scores earned on a math test.

a) What is the median score?
   (1) 75   (2) 70   (3) 85   (4) 77

b) What score represents the first quartile?
   (1) 55   (2) 70   (3) 100   (4) 75

c) What statement is *not* true about the box and whisker plot shown?
   (1) 75 represents the mean score   (3) 85 represents the 3rd quartile
   (2) 100 represents the maximum score   (4) 55 represents the minimum score

d) A score of an 85 on the box-and-whisker plot shown refers to:
   (1) the third quartile   (3) the maximum score
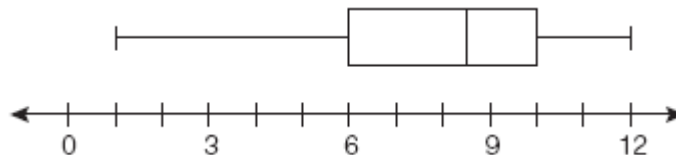   (2) the median   (4) the mean

4) What is the median price for a snowboard at Middletown Snowboards?

55 60 65 70 75 80 85 90 95 100

What is the median score?
(1) 70   (3) 77
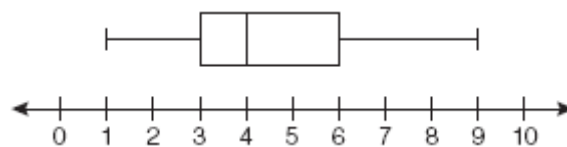(2) 75   (4) 85

5) What is the value of the third quartile shown on the box-and-whisker plot below?

0   3   6   9   12
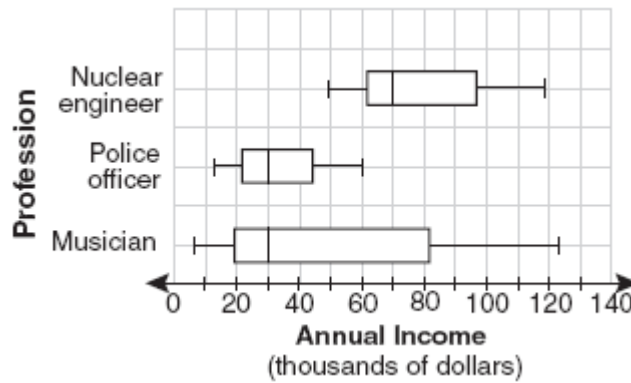
(1) 6   (3) 10
(2) 8.5   (4) 12

6) A movie theater recorded the number of tickets sold daily for a popular movie during the month of June. The box-and-whisker plot shown below represents the data for the number of tickets sold, in hundreds.

0 1 2 3 4 5 6 7 8 9 10

Which conclusion can be made using this plot?
(1) The second quartile is 600.
(2) The mean of the attendance is 400.
(3) The range of the attendance is 300 to 600.
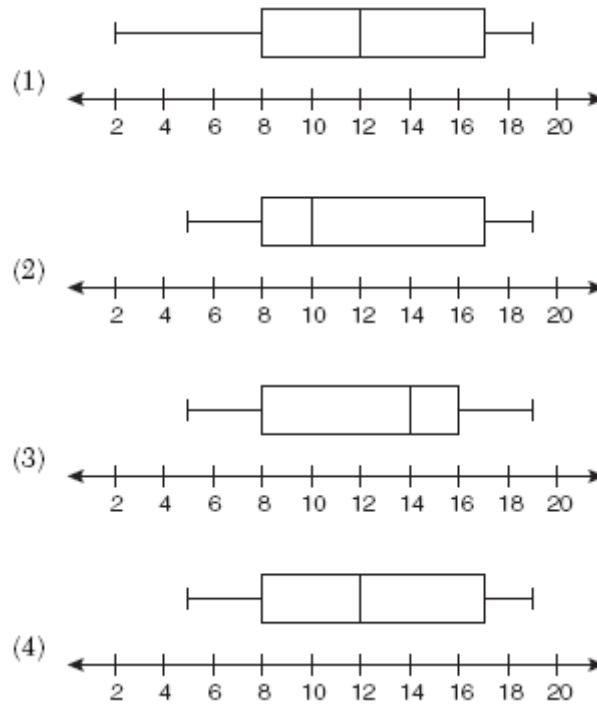(4) Twenty-five percent of the attendance is between 300 and 400.

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

Profession (vertical axis)
Nuclear engineer
Police officer
Musician

Annual Income
(thousands of dollars)
0 20 40 60 80 100 120 140

Based on the box-and-whisker plots, which statement is true?
(1) The median income for nuclear engineers is greater than the income of all musicians.
(2) The median income for police officers and musicians is the same.
(3) All nuclear engineers earn more than all police officers.
(4) A musician will eventually earn more than a police officer.

8) The data set 5, 6, 7, 8, 9, 9, 9, 10, 12, 14, 17, 17, 18, 19, 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?

(1)
2 4 6 8 10 12 14 16 18 20

(2)
2 4 6 8 10 12 14 16 18 20

(3)
2 4 6 8 10 12 14 16 18 20

(4)
2 4 6 8 10 12 14 16 18 20

9) The accompanying stem-and-leaf plot represents Ben's test scores this year.

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6 | 5   8
7 | 2   3   3   3   3   9
8 | 1   3   3   6   7
9 | 6   9   9
```

Key: 7 | 2 = 72

What is the median score for this set of data?
(1) 73   (3) 80
(2) 79   (4) 81

10) Jorge made the accompanying stem-and-leaf plot of the weights, in pounds, of each member of the wrestling team he was coaching.

```
Stem | Leaf
10   | 9
11   |
12   | 3   8
13   | 2   4   4   6   8
14   | 1   3   5   5   9
15   | 2   3   7   7   9
16   | 1   3   7   8   8   8   9
17   | 3   8
```

Key: 16 | 1 = 161

What is the mode of the weights?
(1) 145   (3) 152
(2) 150   (4) 168