Quiz: Box-and-Whisker Plots

Section:Statistics(3) **Sub-section: Box-and-Whisker Plots**

Choose the correct answer.

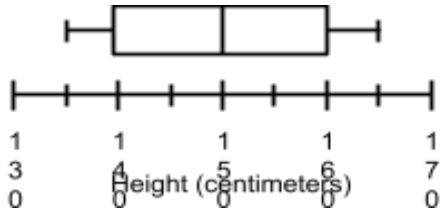
1. Given the following data on heights of children.

   $Min = 135,\ Max = 165,\ Q_1 = 140,\ Q_3 = 160\ and\ Med = 145$

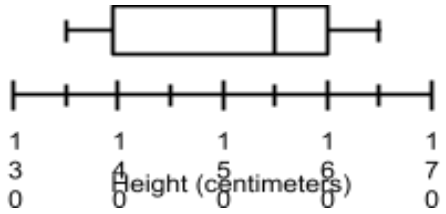
   Which of the following could be the Box-and-Whisker plot?

   (understand, MA 3.1 G.9/1)

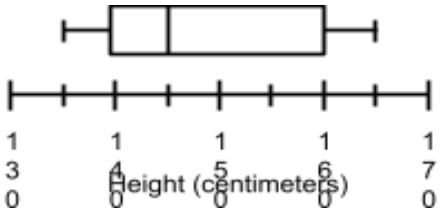
A.



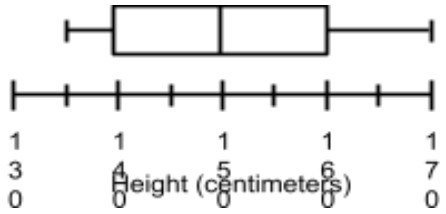
B.



C.



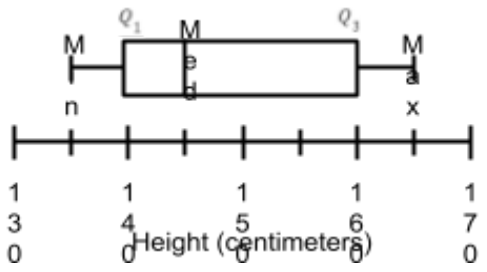
D.



Solution C

We have $Min = 135,\ Max = 165,\ Q_1 = 140,\ Q_3 = 160\ and\ Med = 145$

Thus, the Box-and-Whisker plot could be the figure below.



Quiz: Box-and-Whisker Plots

Section:Statistics(3) **Sub-section: Box-and-Whisker Plots**

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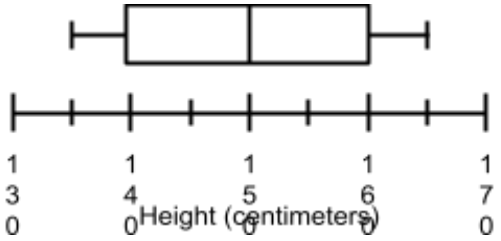
2. Given the following data on heights of children. (understand, MA 3.1 G.9/1)

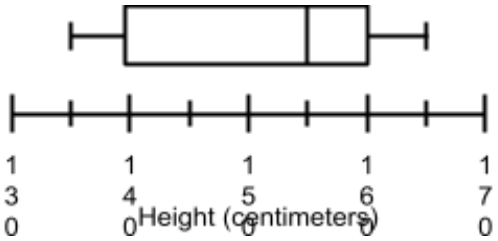
   $Min = 135,\ Max = 165,\ Q_1 = 140,\ Q_3 = 160\ and\ Med = 155$

   Which of the following could be the Box-and-Whisker plot?

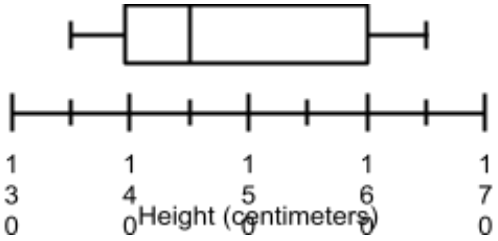
   A.



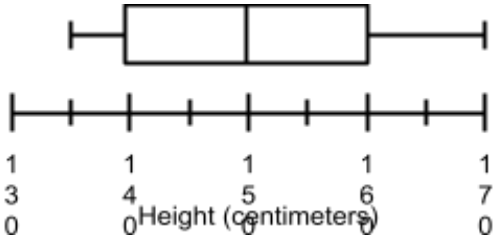
   B.



   C.



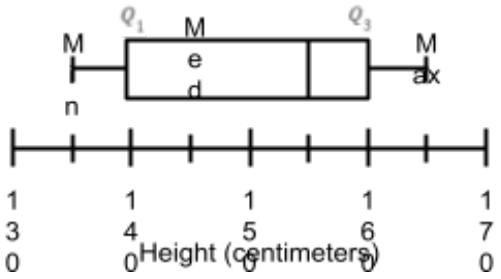
   D.



   Solution B

   We have $Min = 135,\ Max = 165,\ Q_1 = 140,\ Q_3 = 160\ and\ Med = 155$

   Thus, the Box-and-Whisker plot could be the figure below.



Quiz: Box-and-Whisker Plots

Section:Statistics(3) **Sub-section: Box-and-Whisker Plots**

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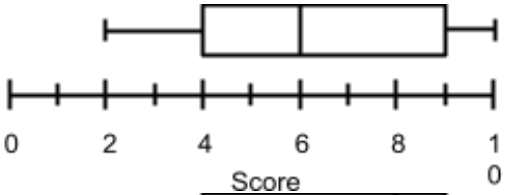
3. Given the following data on scores of students. (apply, MA 3.1 G.9/1)

   2 4 5 7 8 9 10

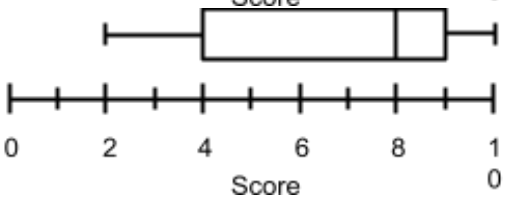
   Which of the following could be the Box-and-Whisker plot?

A.

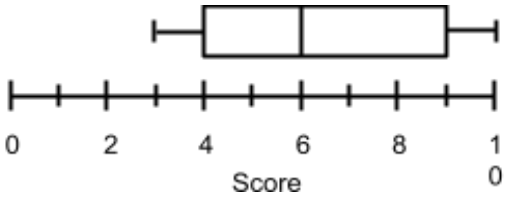
B.



C.



D.



Solution A

Find the $Min,\ Max,\ Q_1,\ Med\ and\ Q_3$.

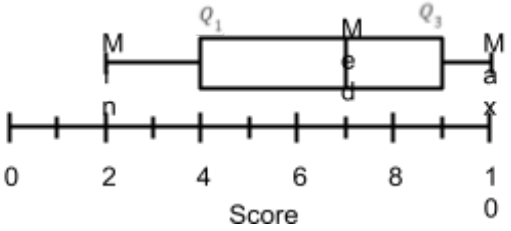
$Min = 2,\ Max = 10$

$Q_1\ position = \frac{1}{4}(7 + 1) = 2$, then $Q_1 = 4$

$Med\ position = \frac{1}{2}(7 + 1) = 4$, then $Med = 7$

$Q_3\ position = \frac{3}{4}(7 + 1) = 6$, then $Q_3 = 9$

Thus, the Box-and-Whisker plot could be the figure below.



Quiz: Box-and-Whisker Plots

Section:Statistics(3) **Sub-section: Box-and-Whisker Plots**

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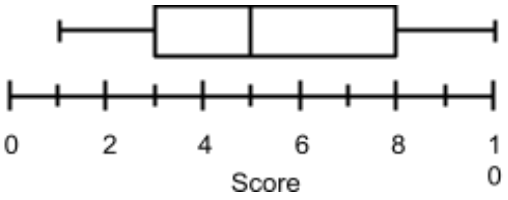
4. Given the following data on scores of students. (apply, MA 3.1 G.9/1)

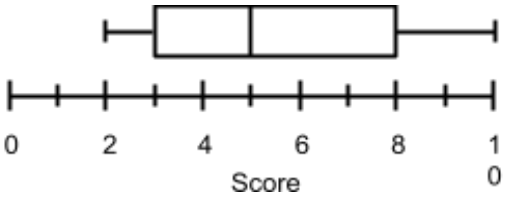
   2 3 6 7 8 8 10

   Which of the following could be the Box-and-Whisker plot?

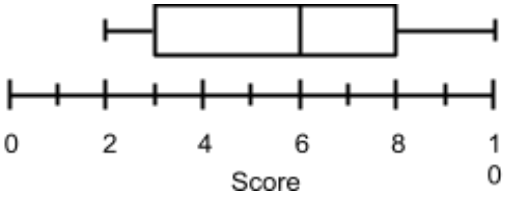
   A.



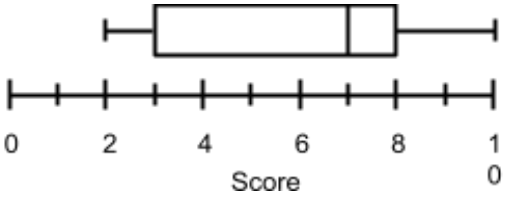
   B.



   C.



   D.



   Solution D

   Find the $Min,\ Max,\ Q_1,\ Med\ and\ Q_3$.

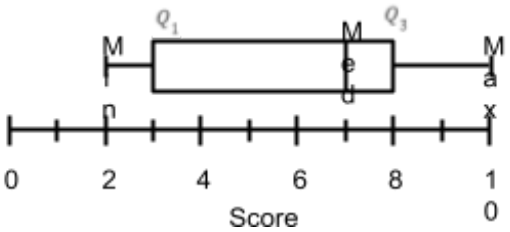
   $Min = 2,\ Max = 10$

   $Q_1\ position = \frac{1}{4}(7 + 1) = 2$, then $Q_1 = 3$

   $Med\ position = \frac{1}{2}(7 + 1) = 4$, then $Med = 7$

   $Q_3\ position = \frac{3}{4}(7 + 1) = 6$, then $Q_3 = 8$

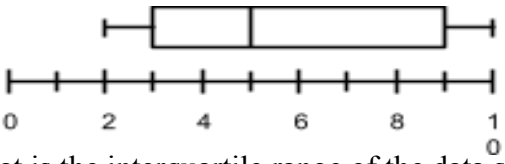
   Thus, the Box-and-Whisker plot could be the figure below.



Quiz: Box-and-Whisker Plots

Section:Statistics(3) **Sub-section: Box-and-Whisker Plots**

5.



What is the interquartile range of the data set?

(understand, MA 3.1 G.9/1)

A. 6

B. 7

C. 8

D. 9

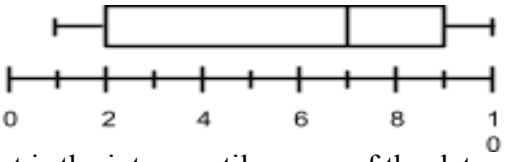
Solution 8

Find the range

Range $= Max - Min = 10 - 2 = 8$

Thus, the range of the data set is 8.

6.



What is the interquartile range of the data set?

(understand, MA 3.1 G.9/1)

A. 6

B. 7

C. 8

D. 9

Solution 9

Find the range

Range $= Max - Min = 10 - 1 = 9$

Thus, the range of the data set is 9.

Quiz: Box-and-Whisker Plots

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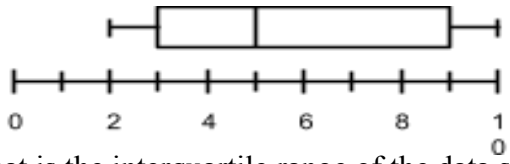
7.



What is the interquartile range of the data set?

(understand, MA 3.1 G.9/1)

A. 6

B. 7

C. 8

D. 9

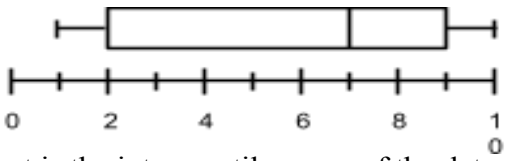
Solution 6

Find the interquartile range (IQR)

IQR = $Q_3 - Q_1 = 9 - 3 = 6$

Thus, the interquartile range (IQR) is 6.

8.



What is the interquartile range of the data set?

(understand, MA 3.1 G.9/1)

A. 6

B. 7

C. 8

D. 9

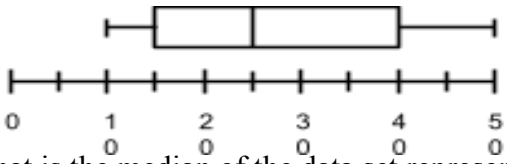
Solution 7

Find the interquartile range (IQR)

IQR = $Q_3 - Q_1 = 9 - 2 = 7$

Thus, the interquartile range (IQR) is 7.

9.



What is the median of the data set represented by the box-and-whisker plot? (apply, MA 3.1 G.9/1)

A. 15

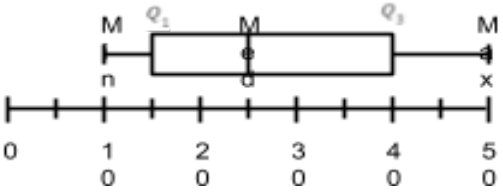
B. 25

C. 40

D. 50

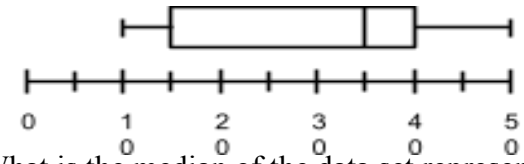
Solution 25

Consider the box-and-whisker plot, we know that…



Thus, the median of the data is 25.

10.



What is the median of the data set represented by the box-and-whisker plot?

(apply, MA 3.1 G.9/1)

A. 15

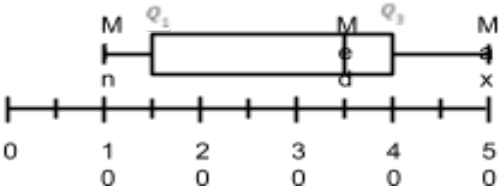
B. 25

C. 35

D. 40

Solution 35

Consider the box-and-whisker plot, we know that…



Thus, the median of the data is 35.