

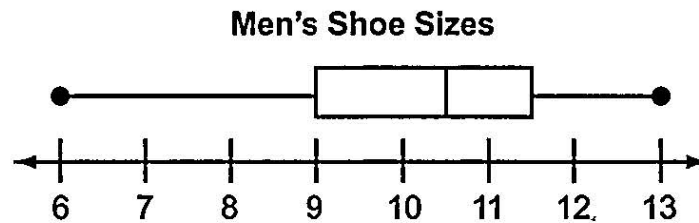
PSSA and Keystone Exams  
Summer 2023 Workshops

# PSSA, Grade 6 Math

*Men's Shoe Sizes*

Handscoring  
Training Set 1

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median is 9.5. The way I found the answer is the middle of the shoe size for the 40 men had 2 numbers so what I did was I add the numbers and divide by 2 and it gave me the median.

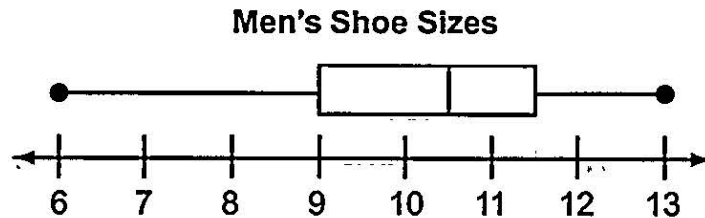
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

The Reason that Martin answer wasnt correct because there is less men have shoe sizes between 6 and 9 than  $11\frac{1}{2}$  and 13 because the whisker 6 to 9 is shorter than the whisker from  $11\frac{1}{2}$  to 13. The way I describe the number is there is more higher shoe sizes for men.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median shoe size of the 40 men Carlos surveyed is 10.5, or  $10\frac{1}{2}$ . I found my answer because I know the median in a box-and-whisker is represented by the middle line in the box. The number 10.5 is directly under the middle line in the box, so I know that 10.5 or  $10\frac{1}{2}$  is the median shoe size of the 40 men Carlos surveyed.

25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

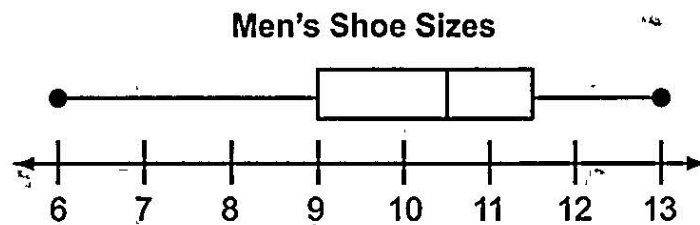
- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct. There are four sections in a box-and-whisker, and each section represents  $\frac{1}{4}$ . For example, 6 to 9 is one section, 9 to  $10\frac{1}{2}$  is another section,  $10\frac{1}{2}$  to  $11\frac{1}{2}$  is another section, and  $11\frac{1}{2}$  to 13 is the last section. Because each section is equal to  $\frac{1}{4}$ , the number of men with sizes 6 to 9 is equal to the number of men with sizes  $11\frac{1}{2}$  to 13. There are 10 men with the shoe sizes in each section.

$$\frac{1}{4} \cdot 40 = 10 \text{ men in each section}$$

I found  $\frac{1}{4}$  of 40 because there is a total of 40 men who were surveyed, and  $\frac{1}{4}$  of them in each section. My answer for the amount of men with shoe sizes in each interval is 10 men.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median shoe size is 10.5 out of the 40 men Carlos surveyed. I know this because between the lower extreme and the lower quartile is 25% of the chart. So between the lower extreme and the median is 50% of the chart. So the median on the chart is the middle line and it is pointing down to 10.5.

25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

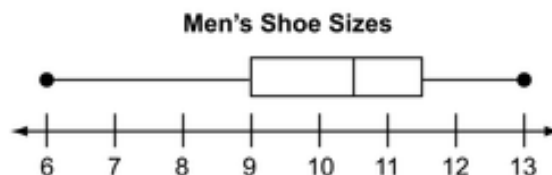
B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct. Only 25% of the 40 men have shoe sizes from 6 to 9. And 25% of the 40 men have shoe sizes from  $11\frac{1}{2}$  to 13. So for each interval they have the same number of men. There are 10 men who have shoe sizes from 6 to 9. And there are 10 men who have shoe sizes from  $11\frac{1}{2}$  to 13. To find this for both the shoe size intervals I multiplied 40 times 0.25 because each interval was 25% of the 40 men.





Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



A. What was the **median** shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

10 1/2

7 / 1000

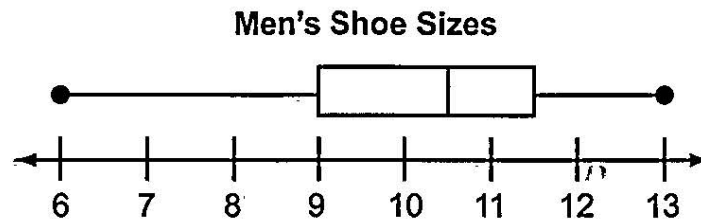
Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

B. Explain why Martin is **not** correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

because the whisker is between 11 1/2

37 / 1000

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

10.5, I know the median is 10.5 because in a box-and-whisker plot the line in the middle of the rectangle shows the median.

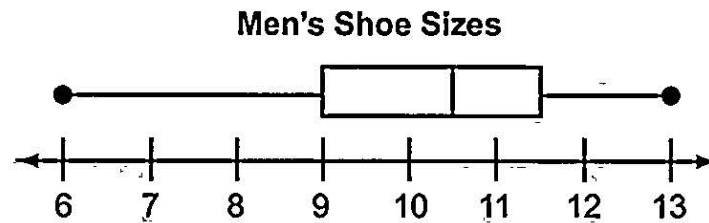
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is incorrect because more men would have shoe sizes between 9 and  $11\frac{1}{2}$ . I know this because that's where the box/rectangle goes to.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median is ten and  $\frac{1}{2}$  because I looked at the box and whisker plot and it said. It was ten and  $\frac{1}{2}$ .

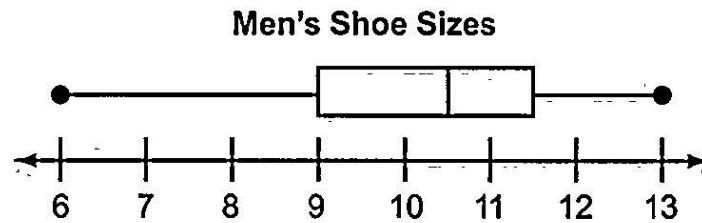
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct because it is  $10\frac{1}{2}$ .

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median shoe size of the 40 men is 10.5. I know this because the center line of the box is at  $10\frac{1}{2}$ .

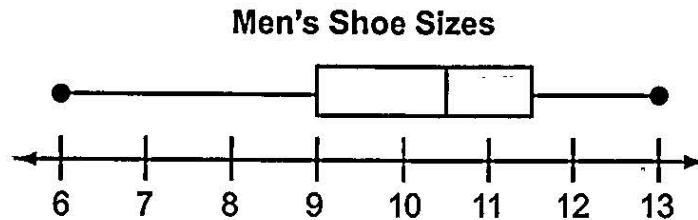
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct because the length of the line has nothing to do with the number of men that wear a specific shoe size. There are 10 men with shoe sizes because the box-and-whisker plot is divided into 4 equal sections.  $40 \div 4$  is 10, so there are 10 men in each sector.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A: What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median of 40 men's shoe sizes was  $10\frac{1}{2}$ . I found the median by looking at the box-and-whisker plot. Then I looked for the line in the middle of the rectangular box. Once I found it I looked straight down to see what number it was hovering over. The number was  $10\frac{1}{2}$  and I knew it was the median.



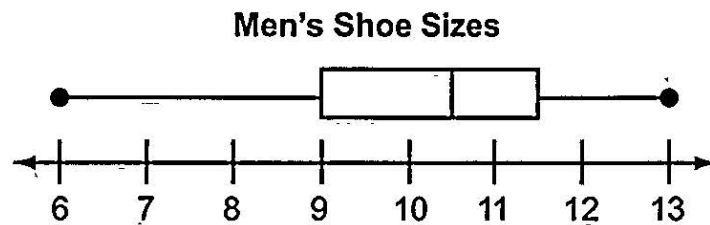
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is incorrect because if there were more men that wore shoe sizes 6 through 9, the box would be closer to the shoe sizes 6-9 because there are more shoe sizes in that area. The majority of the shoe sizes are in intervals 2 and 3. The first interval are the shoe sizes 6-9. The second interval has the shoe sizes 9- $10\frac{1}{2}$ . The third interval has the shoe sizes  $10\frac{1}{2}$ - $11\frac{1}{2}$ . The fourth and final interval has the shoe sizes  $11\frac{1}{2}$ -13. The number of men for each interval is impossible to find because it shows their shoe sizes and not how many men for each.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The median shoe size of the 40 men surveyed by Carlos was  $10\frac{1}{2}$  because each part was 25% so from 6 to 9 is 25% and 9 to  $10\frac{1}{2}$  is 50% and at 50% is the middle of the data.

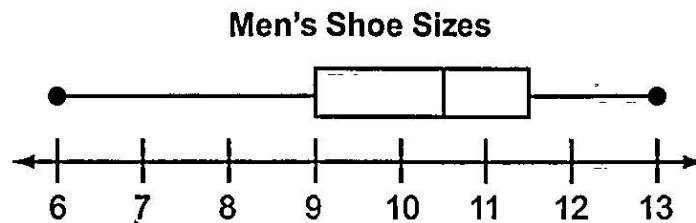
25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct because it doesn't matter how much bigger or smaller it is because all parts are worth 25%. There are ten men with shoe sizes in each interval because if he surveys 40 men and there are 4 parts of the plot all you do is  $40 \div 4 = 10$  men in each interval.

25. Carlos surveyed 40 men about their shoe sizes. Carlos made the box-and-whisker plot below to display his results.



- A. What was the median shoe size of the 40 men Carlos surveyed? Explain how you found your answer.

The shoe size for men is  $10\frac{1}{2}$ . I found this answer by looking and seeing that it looks like it is in the middle of 10 and 11.

25. *Continued.* Please refer to the previous page for task explanation.

Martin thinks more men have shoe sizes between 6 and 9 than between  $11\frac{1}{2}$  and 13 because the whisker from 6 to 9 is longer than the whisker from  $11\frac{1}{2}$  to 13.

- B. Explain why Martin is not correct. As part of your explanation, find the number of men with shoe sizes in each interval and describe how you found those numbers.

Martin is not correct because 6 and 9's are too small for men maybe not for kids.



PSSA Math: Men's Shoe Sizes (Grade 6); Training Set 1

Subject: Math

Item: Men's Shoe Sizes

Grade: 6

Name \_\_\_\_\_

Number	Score	Notes
T1-1		
T1-2		
T1-3		
T1-4		
T1-5		
T1-6		
T1-7		
T1-8		
T1-9		
T1-10		