

What is the process for finding the median of a box plot, and can you provide examples?

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The process for finding the median of a box plot involves identifying the middle value of the data set. This can be done by locating the vertical line in the middle of the box, known as the median line. The median line represents the median of the data. If the number of data points is even, the median will be the average of the two middle values. If the number of data points is odd, the median will be the middle value itself. For example, if a box plot represents the ages of a group of individuals, the median would be the age of the person in the middle of the group. Another example would be if a box plot represents the prices of a set of products, the median would be the price of the product in the middle of the data set.

Find the Median of a Box Plot (With Examples)

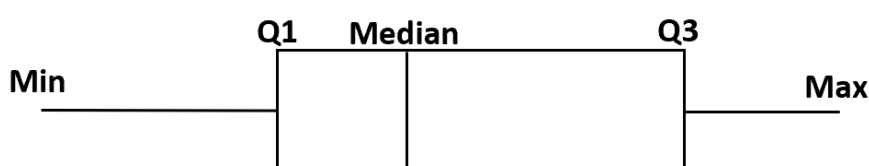
A box plot is a type of plot that displays the five number summary of a dataset, which includes:

The minimum value
The first quartile (the 25th percentile)
The median value
The third quartile (the 75th percentile)
The maximum value

To make a box plot, we first draw a box from the first to the third quartile.

Then we draw a vertical line at the median.

Lastly, we draw "whiskers" from the quartiles to the minimum and maximum value.



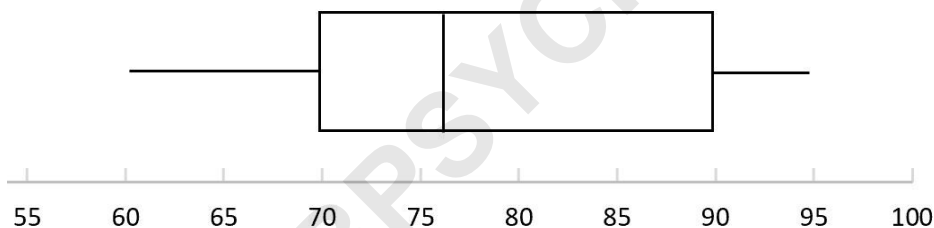
To find the median of a box plot, we simply need to identify the value located at the vertical line inside of the box.

The following examples show how to find the median of a box plot in practice.

Example 1: Exam Scores

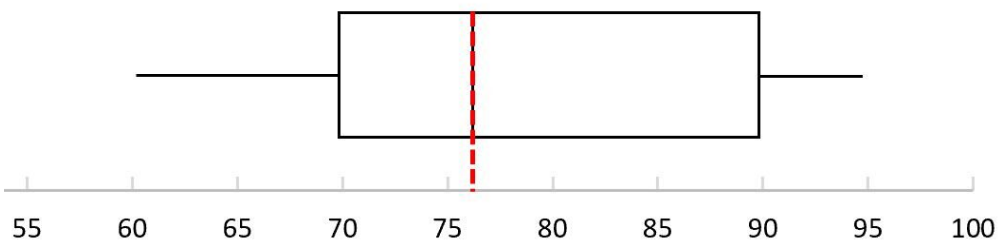
The following box plot shows the distribution of scores on a certain college exam.

What is the median of the exam scores?



To find the median, we need to identify the vertical line inside the box.

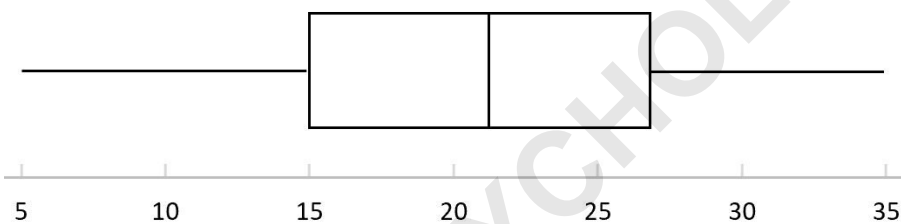
We can then find what value lines up with this vertical line on the number line:



The median of the exam scores is about 76.

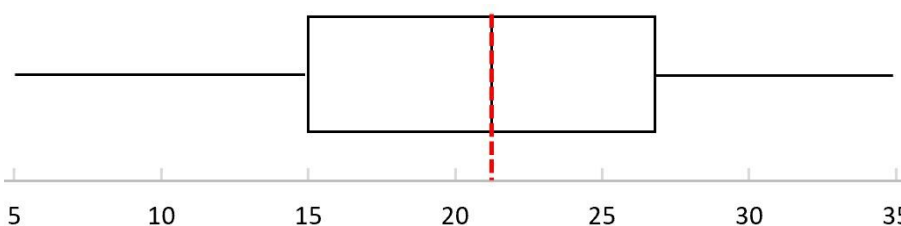
Example 2: Points Scored

What is the median of the distribution?



To find the median, we need to identify the vertical line inside the box.

We can then find what value lines up with this vertical line on the number line:

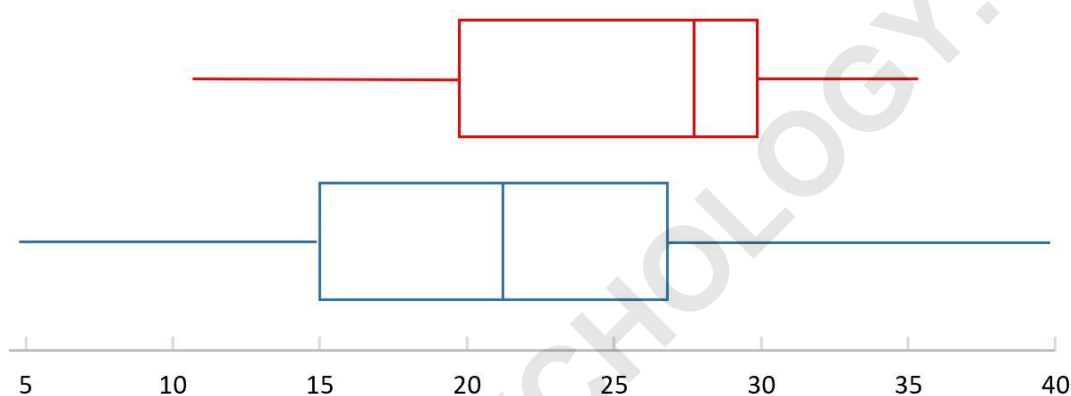


The median of the distribution is about 21.

Example 3: Comparing Plant Heights

The following box plots show the distribution of heights for two different plant species: Red and Blue.

Which distribution has a higher median value?



The median of the red box plot is about 28.

The median of the blue box plot is about 21.

Thus, the red plant species has a higher median value.

Additional Resources

The following tutorials provide additional information about box plots: