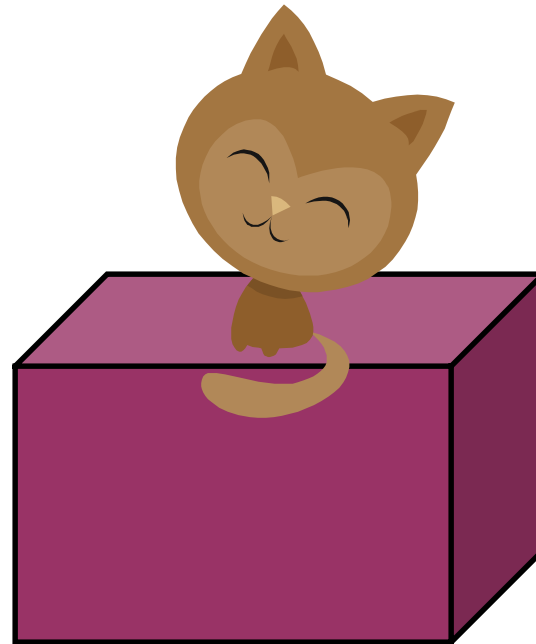


Box-and-Whisker Plots





Step 1 – Order Numbers

12, 13, 5, 8, 9, 20, 16, 14, 14, 6, 9, 12, 12

1. Order the set of numbers from least to greatest

5, 6, 8, 9, 9, 12, 12, 12, 13, 14, 14, 16, 20



Step 2 – Find the Median

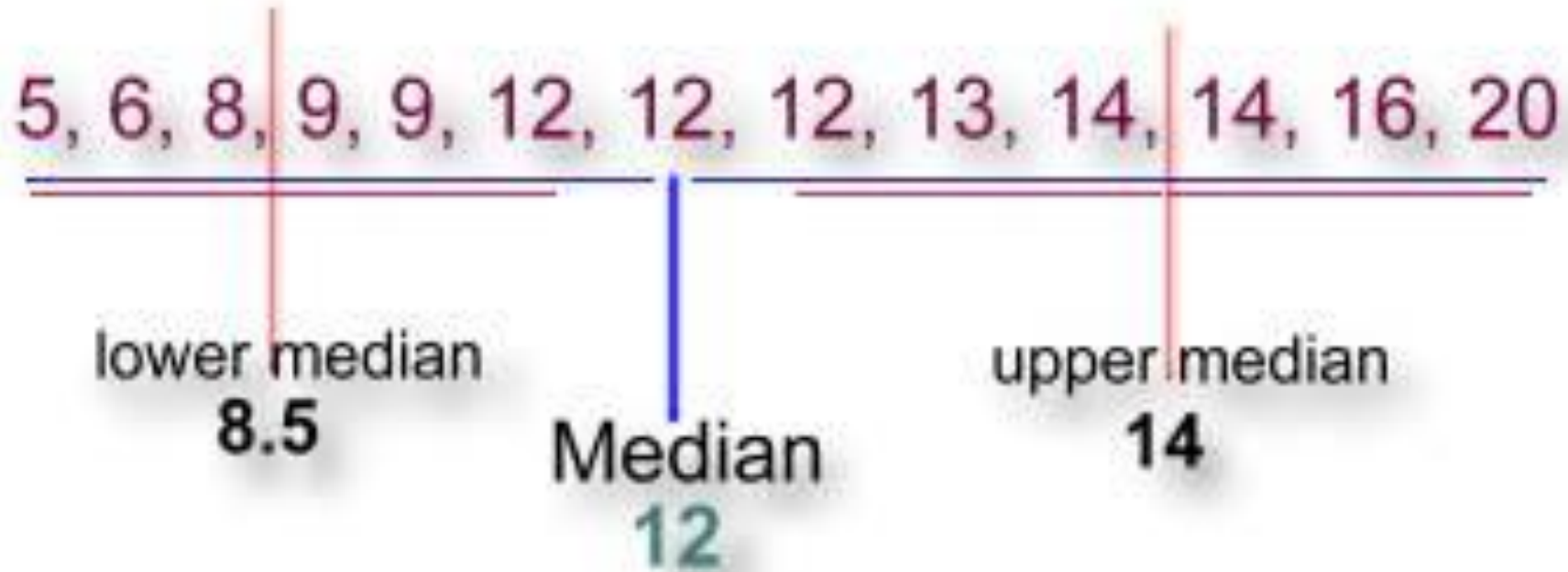
5, 6, 8, 9, 9, 12, 12, 12, 13, 14, 14, 16, 20

Median
12


2. Find the **median**. The median is the middle number. If the data has two middle numbers, find the mean of the two numbers. What is the median?



Step 3 – Upper & Lower Quartiles



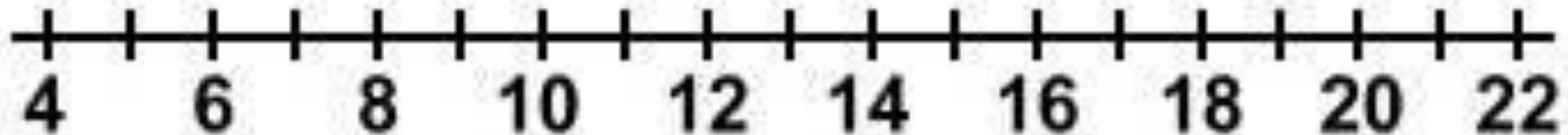
3. Find the **lower and upper medians or quartiles**. These are the middle numbers on each side of the median. What are they?



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Step 4 – Draw a Number Line

Now you are ready to construct the actual box & whisker graph. First you will need to draw an ordinary number line that extends far enough in both directions to include all the numbers in your data:

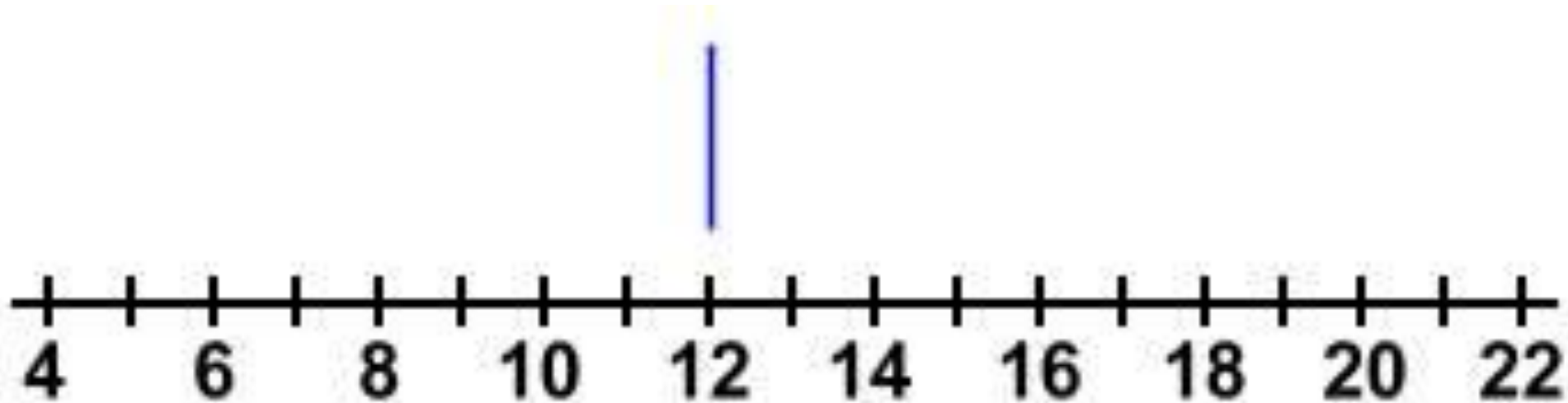




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Step 5 – Draw the Parts

Locate the main **median 12** using a vertical line just above your number line:

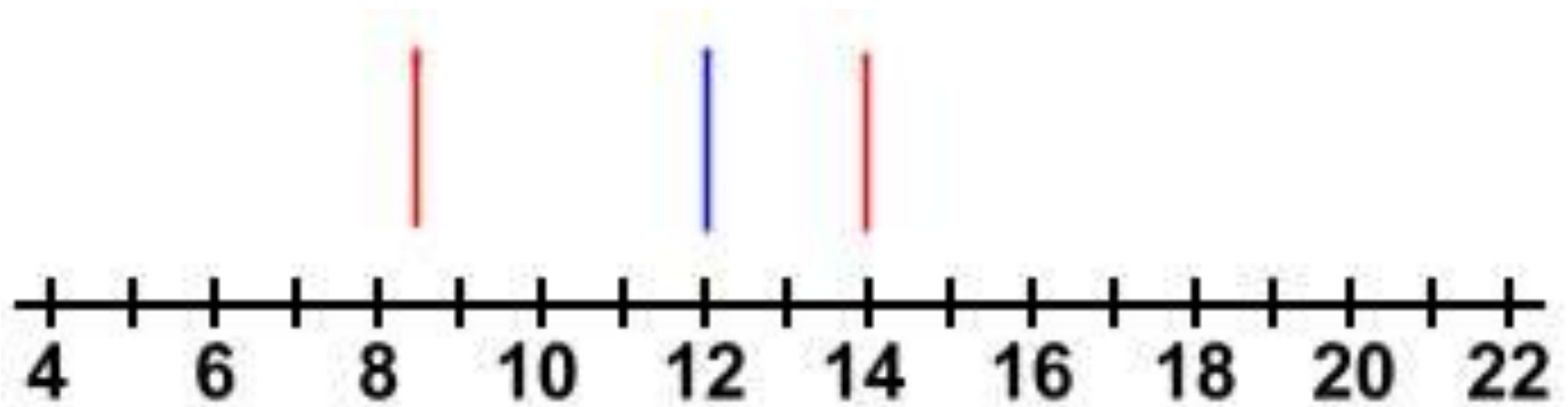




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Step 5 – Draw the Parts

Locate the **lower median 8.5** and the **upper median 14** with similar vertical lines:

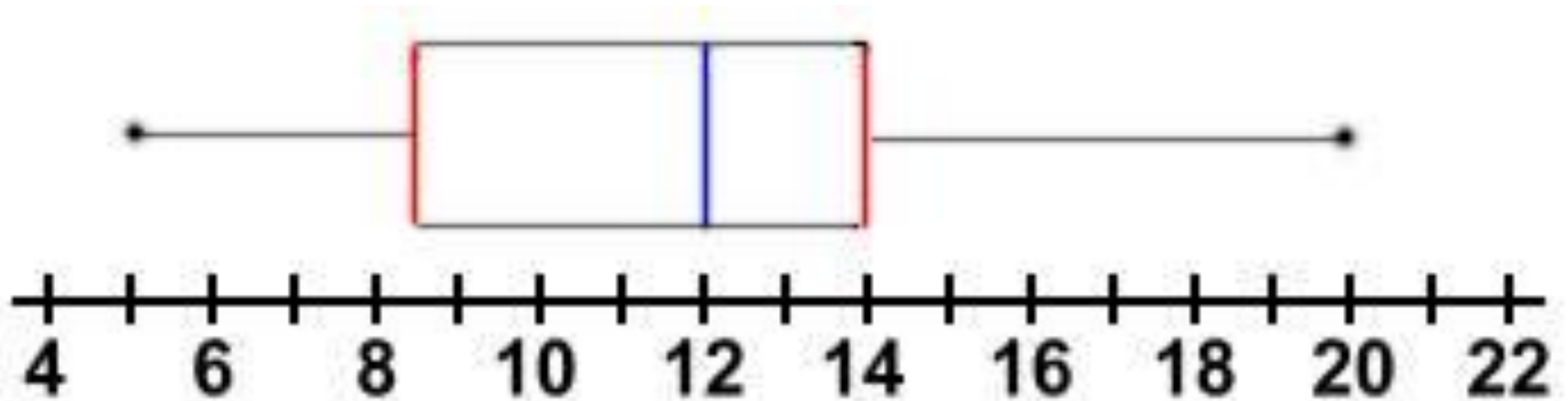




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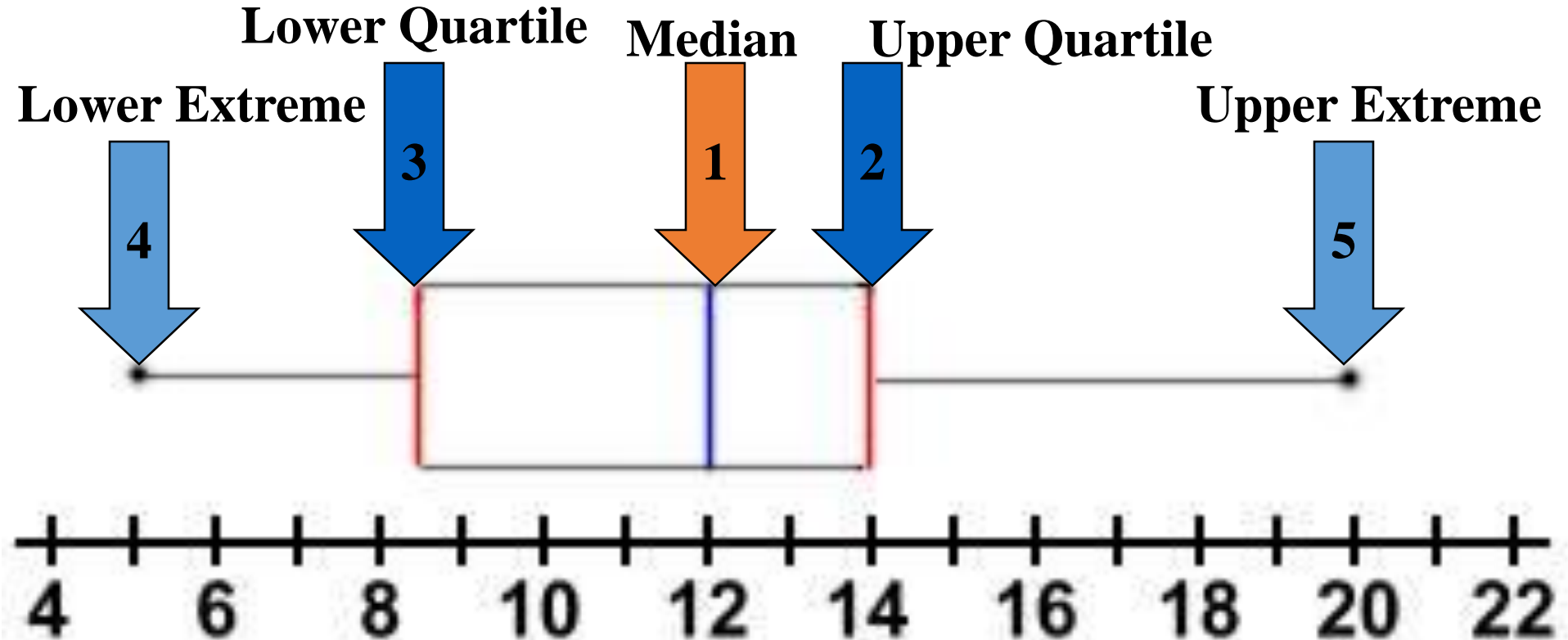
Step 5 – Draw the Parts

Finally, the **whiskers** extend out to the data's smallest number **5** and largest number **20**:





Step 6 - Label the Parts of a Box-and-Whisker Plot



Name the parts of a Box-and-Whisker Plot



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Interquartile Range

The interquartile range is the difference between the upper quartile and the lower quartile.

$$14 - 8.5 = 5.5$$