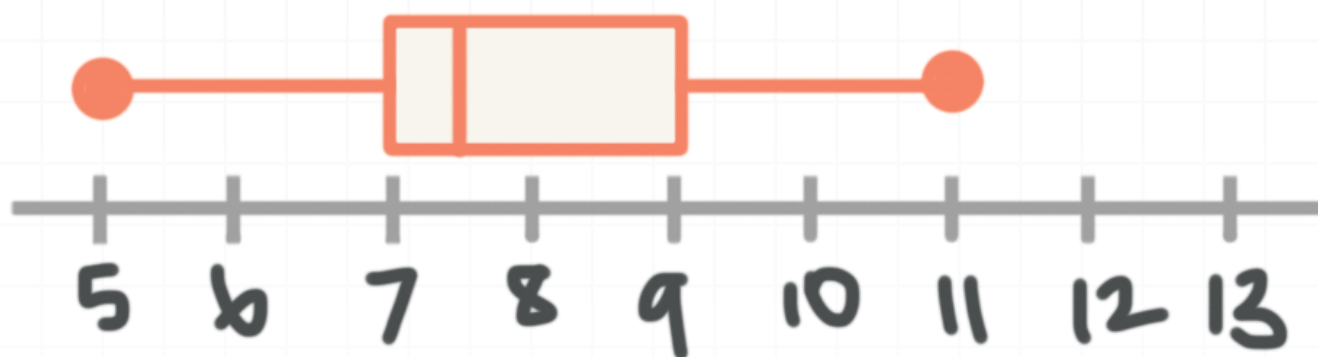**Topic**: Box-and-whisker plots

Question: The box plot shows the number of hours slept on vacation. What is the median of the data?
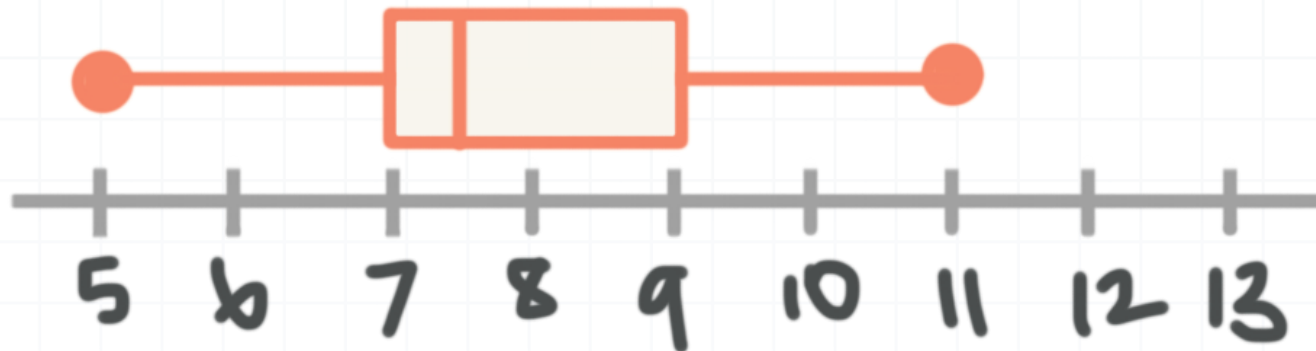

Answer choices:

A   2

B   6

C   7.5

D   8.5

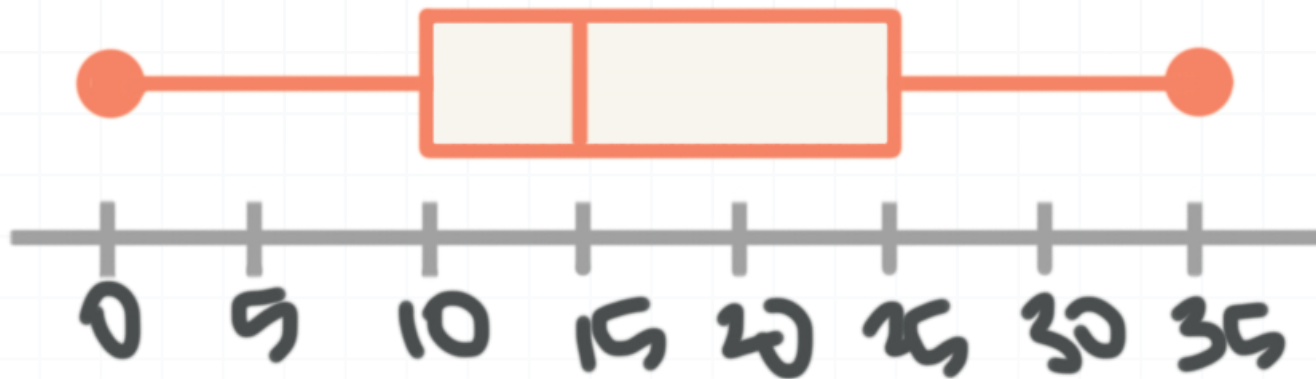**Solution**: C

The median of a box-and-whisker plot is the line inside of the box.

Since that line is sitting between 7 and 8, answer choice C of 7.5 can be the only correct choice.

Topic: Box-and-whisker plots

Question: Build the 5-number summary for the box plot.

Answer choices:

A

Min	Q_1	Median	Q_3	Max
5	10	15	20	25

B

Min	Q_1	Median	Q_3	Max
35	25	15	10	0

C

Min	Q_1	Median	Q_3	Max
0	10	15	25	35

D

Min	Q$_1$	Median	Q$_3$	Max
0	10	25	30	35

Solution: C

The 5-number summary of a data set includes the minimum value, the first quartile, the median, the third quartile, and the maximum value of a data set.

In a box plot, those values are given by the lower edge of the left whisker, the lower edge of the box, the vertical line inside the box, the upper edge of the box, and the upper edge of the right whisker, respectively.

Therefore, the 5-number summary that matches the box plot is

Min	Q$_1$	Median	Q$_3$	Max
0	10	15	25	35

Topic: Box-and-whisker plots

Question: If the first quartile is 15 and the third quartile is 25, which statement is true?

Answer choices:

A   The median is 20.

B   The mean is between 15 and 25.

C   Both statements are true.

D   With the information provided, it's impossible to say whether A or B is true or false.

Solution: D

If $Q_1 = 15$ and $Q_3 = 25$, we know the median is between 15 and 25.

But we can't determine its exact value. The mean could be larger than 25 or smaller than 15 if there was an extreme outlier in the data set.