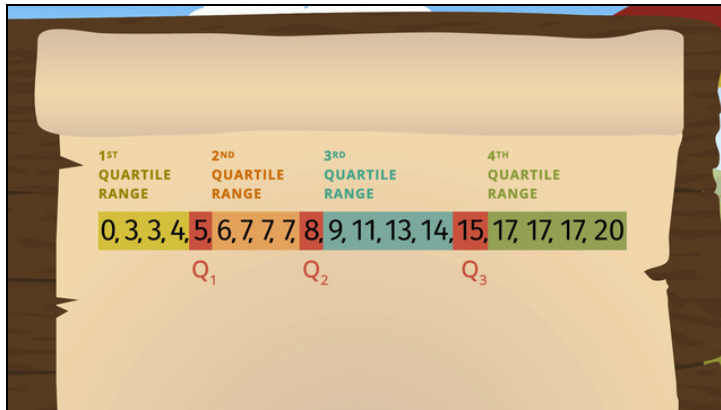Printable Worksheets from sofatutor.com

Quartiles and Interquartile Range

(1) **Identify how to find the median.**

(2) Explain how to find the interquartile range.

(3) Determine the median, the quartiles, and the interquartile range.

(4) Determine the median, the quartiles, and the interquartile range.

(5) Calculate which data points are in which quartile range.

(6) Determine the median, the quartiles, and the interquartile range.

(+) with lots of tips, answer keys, and detailed answer explanations for all of the problems.

⚠ The complete package, **including all problems, hints, answers, and detailed answer explanations** is available for all sofatutor.com subscribers.

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Worksheet: Quartiles and Interquartile Range
Mathematics / Algebra 1 / Statistics: Data Distribution / Quartiles and Interquartile Range

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of 6

Identify how to find the median.

Choose the correct statements.

☐ **A** The median of a list with an odd number of data points is right the middle of this list.

☐ **B** The median of a list with an odd number of data points belongs to the list.

☐ **C** For the median of a list with an even number of data points you can choose between two data points. It doesn't matter at all which one you take.

☐ **D** The median of a list with an even number of data points is the mean of the two data in the middle of the list.

☐ **E** The mean of two numbers is the difference of those numbers.

☐ **F** We get the mean of two numbers by adding those numbers and dividing the sum by 2.

Hints for solving these problems

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Identify how to find the median.

Hint #1

$$2 \quad 5 \quad 7 \quad 8 \quad 12$$

For this list the median is 7.

Hint #2

$$2 \quad 5 \quad 7 \quad 9 \quad 12 \quad 13$$

For this list the median is the mean of 7 and 9.

Hint #3

For the example above, the mean is $\frac{7+9}{2} = \frac{16}{2} = 8$.

Answers and detailed answer explanations for these problems

1 of 6   **Identify how to find the median.**

Answer key: A, B, D, F

How can we find the median of a given ordered list?

We have to differentiate between two cases:
- The number of data points is **odd**.
- The number of data points is **even**.

Let's illustrate what we do in each case with an example:

Let's start with an **odd** number of data points:

$$2 \quad 5 \quad 7 \quad 8 \quad 12$$

The median is the data point lying right in the middle of the list, in this example at position 3. So we have that the median is 7. The median belongs to the list of data.

Now let's see what we do when we have an **even** number of data points:

$$2 \quad 5 \quad 7 \quad 9 \quad 12 \quad 13$$

The median lies between 7 and 9. So we take the mean of those values as the median:

$\frac{7+9}{2} = \frac{16}{2} = 8$.

This median could belong to the list of data, but not always.

Independent of even or odd numbers, we can conclude that the median splits the list into two parts containing the same number of data points.

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