

Choices: Real estate agent vs. customer service representative

Your brother is deciding between pursuing a career as a real estate agent or a customer service representative. You have been looking at the information provided by the United States Department of Labor and have found some interesting facts about these two careers.

Department of Labor information:

- [Customer service representatives overview](#)
- [Customer service representatives employment and wages](#)
- [Real estate agents overview](#)
- [Real estate agents employment and wages](#)

Real estate agents:

Education required/recommended:

Licensing requirement:

Full-time vs. part-time potential:

Expected growth of occupation in the coming decade:

Median annual wages:

Mean annual wages:

Salary range:

Your brother asks you to explain why the median and the mean are different for the salaries of real estate agents. How would you help him understand the difference between these two measures of central tendency and how they summarize sets of data?

Should your brother expect to make the median or the mean salary in the next year if he decides to become a real estate agent? Why or why not? _____

Customer service representatives:

Education required/recommended:

Licensing requirement:

Full-time vs. part-time potential:

Expected growth of occupation in the coming decade:

Median annual wages: _____

Mean annual wages: _____

Salary range: _____

Why are the median and the mean values closer in the customer service representative data than they are for the real estate agents?

What advice would you give your brother about his career options? Include mathematical reasoning with regards to the mean and median, as well as the range of the reported salaries in your justification.

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Answer key

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Real estate agents:

Education required/recommended:

Prospective agents must be high school graduates. Many real estate firms are looking for college graduates or agents with some college training.

Licensing requirement:

Real estate agents must pass a written examination that includes questions on basic real estate transactions and the law affecting the sale of property.

Full-time vs. part-time potential:

Many real estate agents work part-time, combining their real estate activities with other careers.

Expected growth of occupation in the coming decade:

Employment of real estate agents is expected to grow 14 percent in the time from 2008-2018. This is faster than average for all occupations.

Median annual wages: \$40,000

Mean annual wages: \$53,100

Salary range: \$20,800 to \$96,410

Your brother asks you to explain why the median and the mean are different for the salaries of real estate agents. How would you help him understand the difference between these two measures of central tendency and how they summarize sets of data?

The median reports the actual “middle value” of a data set. In order to calculate the median, all of the salaries would be put in order from least to greatest to find the middle value. The median is always one of the actual reported values (unless

there are two in the middle). The mean takes the sum of all of the values and divides by the number of values reported. This calculates the numerical center of the data set. The mean is often not one of the reported values in a data set. The difference between the median and the mean in this report suggests that there are a few real estate agents making a significantly higher salary, which would skew the mean value to be high. Those higher salaries may or may not be outliers, but they definitely affect the mean and make it 10,000+ more than the median.

Should your brother expect to make the median or the mean salary in the next year if he decides to become a real estate agent? Why or why not?

No. The information provided states that beginners' earnings are often irregular because a few weeks or even months can go by without a sale. After a few years and building up his referral base, he could get close to the median. In order to be at the mean, however, he will have to be an exceptionally successful real estate agent.

Customer service representatives:

Education required/recommended:

Most customer service representative jobs require a high school diploma. High school and college level courses in computers, English, or business are helpful in preparing for a job in customer service.

Licensing requirement:

No license is required.

Full-time vs. part-time potential:

Many customer service representatives are part-time or work a split shift. This occupation is well suited to flexible work schedules.

Expected growth of occupation in the coming decade:

Employment of customer service representatives is expected to grow 18 percent in the time from 2008-2018. This is faster than average for all occupations.

Median annual wages: \$30,290

Mean annual wages: \$32,410

Salary range: \$19,410 to \$49,020

Why are the median and the mean values closer in the customer service representative data than they are for the real estate agents?

The difference between the median and the mean in this data set is probably due to a more even distribution of the salaries for this occupation. The range of salaries is much smaller in this data set, which means that earnings are closer together.

What advice would you give your brother about his career options? Include mathematical reasoning with regards to the mean and median, as well as the range of the reported salaries in your justification.

Answers will vary. Look for justifications that include mathematical explanations of the mean, median and range of the salaries. Prompt students to include this level of justification if it is not initially included. Also look for and validate reasoning based on skills, licensure, education level, scheduling (part-time vs. full-time), and other sound justifications for the “choice.” Some students may note that the customer service representative salary is more predictable than the real estate agent salary.