

Lesson 1-7

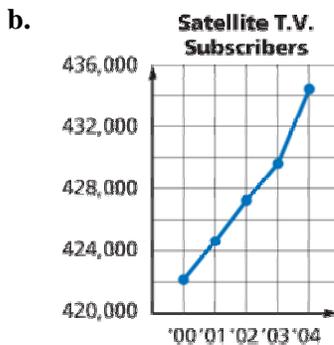
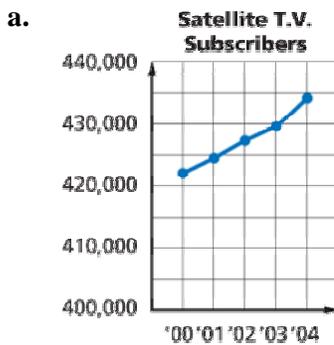
Example 1

ENTERTAINMENT The number of subscribers to a satellite television service from 2000 to 2004 can be seen in the table.

Year	Subscribers
2000	422,150
2001	425,600
2002	427,200
2003	429,550
2004	434,300

- Make a line graph of the data using a vertical scale from 400,000 to 440,000 with each unit equal to 5000 subscribers.
- Make a line graph of the data using a vertical scale from 420,000 to 436,000 with each unit equal to 2000 subscribers.
- If you are an executive of the satellite company planning to include a graph of subscribers in a television commercial, which graph would you use? Explain.

Solution



- The executive would show the graph created in part b. This graph makes it appear that the number of satellite television subscribers has increased dramatically.

Example 2

EDUCATION A student claims to have an average test grade of 80 this semester. His scores on tests during the semester are 76, 99, 74, 72, 75, 72, and 92.

- a. Which measure of central tendency did the student use to find the average grade.
- b. Does the student's claim accurately describe his average performance?
- c. Which measure(s) of central tendency would more accurately describe the student's performance on tests this semester?

Solution

- a. Determine the three measures of central tendency. Arrange the data in order from least to greatest to find the mode and the median.

72, 72, 74, 75, 76, 92, 99

median: The middle score is 75.

mode: The score of 72 appears twice, so it is the mode.

mean: Add the test scores and divide by 7.

$$76 + 99 + 74 + 72 + 75 + 72 + 92 = 560$$

$$560 \div 7 = 80$$

The measure of central tendency used by the student is the mean.

- b. No. Only two of the seven test scores are greater than or equal to the mean. The other five scores are much lower than the mean.
- c. The median score is a more accurate measure of central tendency because it is near most of the test scores.