

3	A	*1. Measures of central tendency
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Select the **measure of central tendency** that would be most appropriate for describing each of the following hypothetical sets of data:

a. Religious preferences of delegates to the United Nations	<input type="checkbox"/> Mean	<input type="checkbox"/> Median	<input type="checkbox"/> Mode
b. Heart rates for a group of women before they start their first aerobics class	<input type="checkbox"/> Mean	<input type="checkbox"/> Median	<input type="checkbox"/> Mode
c. Types of phobias exhibited by patients attending a phobia clinic	<input type="checkbox"/> Mean	<input type="checkbox"/> Median	<input type="checkbox"/> Mode
d. Amounts of time participants spend solving a classic cognitive problem, with some of the participants unable to solve it	<input type="checkbox"/> Mean	<input type="checkbox"/> Median	<input type="checkbox"/> Mode
e. Height in inches for a group of boys in the first grade	<input type="checkbox"/> Mean	<input type="checkbox"/> Median	<input type="checkbox"/> Mode

3	A	2. Distribution descriptives
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Describe a **realistic situation** in which you would expect to obtain each of the following:

a) A negatively skewed distribution
b) A positively skewed distribution
c) A bimodal distribution

3	A	*3. Distribution descriptives
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A midterm exam was given in a large introductory psychology class. The **median** score was 85, the **mean** was 81, and the **mode** was 87.

What kind of distribution would you expect from these exam scores?

3 A 4. Measures of central tendency

A veterinarian is interested in the life span of golden retrievers. She recorded the age at death (in years) of the retrievers treated in her clinic. The ages were **12, 9, 11, 10, 8, 14, 12, 1, 9, 12.**

a) Calculate the mean, median, and mode of life span:

Mean

Median

Mode

b) After examining her records, the veterinarian determined that the dog that had died at 1 year was killed by a car. **Recalculate** the mean, median, and mode without that dog's data.

Mean

Median

Mode

c) Which measure of central tendency in part b **changed the most**, compared to the values originally calculated in part a?

Mean Median Mode

Explain.

3	A	5. Measures of variability
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Which of the three most popular **measures of variability** would you choose in each of the following situations?

a. The distribution is badly skewed with a few extreme outliers in one direction.	<input type="checkbox"/> Range <input type="checkbox"/> SIQ range <input type="checkbox"/> SD
b. You are planning to perform advanced statistical procedures (e.g., draw inferences about population parameters).	<input type="checkbox"/> Range <input type="checkbox"/> SIQ range <input type="checkbox"/> SD
c. You need to know the maximum width taken up by the distribution.	<input type="checkbox"/> Range <input type="checkbox"/> SIQ range <input type="checkbox"/> SD
d. You need a statistic that takes into account every score in the population.	<input type="checkbox"/> Range <input type="checkbox"/> SIQ range <input type="checkbox"/> SD
e. The highest score in the distribution is “more than 10.”	<input type="checkbox"/> Range <input type="checkbox"/> SIQ range <input type="checkbox"/> SD

4	A	*1. Z-scores
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If you **convert each score in a set of scores to a z score**, which of the following will be **true** about the resulting set of z scores?

a. The mean will equal 1.	<input type="checkbox"/> TRUE
b. The variance will equal 1.	<input type="checkbox"/> TRUE
c. The distribution will be normal in shape.	<input type="checkbox"/> TRUE
d. All of the above.	<input type="checkbox"/> TRUE
e. None of the above.	<input type="checkbox"/> TRUE

4	A	2. Z-scores
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The distribution of body weights for adults is somewhat **positively skewed**— there is much more room for people to be above average than below.

If you take **the mean weights for random groups of 10 adults** each and form a new distribution, how will this new distribution **compare** to the distribution of individuals?

a. The new distribution will be more symmetrical than the distribution of individuals.	<input type="checkbox"/> TRUE
b. The new distribution will more closely resemble the normal distribution.	<input type="checkbox"/> TRUE
c. The new distribution will be narrower (i.e., have a smaller standard deviation) than the distribution of individuals.	<input type="checkbox"/> TRUE
d. All of the above.	<input type="checkbox"/> TRUE
e. None of the above.	<input type="checkbox"/> TRUE