

Name: _____ Class: _____ Date: _____

Quiz Chapter 3

Your answers: shade in the cell that best completes the statement or answers the question

	1	2	3	4	5
a					
b					
c					
d					
e					

Quiz Chapter 3

1. What does 95% confidence mean?
 - a. We can be 95% confident the interval includes the sample statistic.
 - b. 95% of the possible population parameters will be included in the interval.
 - c. 95% of the possible sample statistics will be included in the interval.
 - d. ✓ The method used to get the interval, when used over and over, produces intervals that include the true population parameter 95% of the time.

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A local planning commission is interested in finding out what proportion of its city's residents is opposed to constructing a new baseball stadium in the downtown area. A random sample of 1870 residents is obtained, and 41.2% of them are opposed to the stadium.

2. A 95 percent confidence interval was created for the proportion of the city's residents who are opposed to constructing a new baseball stadium in the downtown area. Decreasing the sample size will

- a. result in a narrower interval because there will be less information.
- b. result in a narrower interval because the margin of error will decrease.
- c. result in a wider interval because the margin of error will increase.
- d. result in a wider interval because the average scores will change.
- e. not affect the confidence interval at all.

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3. A Gallup Poll asked 1022 randomly chosen adults whether the failure of the government to solve major challenges facing the country was a "crisis," a "major problem," a "minor problem," or "not a problem." The proportion giving the response "a minor problem" was 14%. The margin of sampling error was plus or minus 3 percentage points. Assume a 95% confidence level and no bias. From the information given above, one can make which of the following statements? (Note that $14\% \pm 3\%$ is 11% to 17%.)

- a. Between 11 and 17% of the sample responded, "a minor problem."
- b. Between 11 and 17% of all American adults would respond, "a minor problem."
- c. There is a 95% confidence (but not certainty) that between 11 and 17% of the sample responded, "a minor problem."
- d. There is a 95% confidence (but not certainty) that between 11 and 17% percent of all American adults would respond, "a minor problem."

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4. A Pew Research Council Poll recently showed that 23% of Americans are religiously unaffiliated and among these, 61% believe in God. The poll contacted 35,071 adults by telephone. The margin of sampling error was plus or minus 0.6 (six-tenths) of a percentage point. Assume a 95% confidence level and no bias. The numbers 23% and 61% in the report on the poll results are

- a. parameters because they describe a population.
- b. parameters because they describe a sample.
- c. statistics because they describe a population.
- d. statistics because they describe a sample.

*samples → statistics .
parameters → population .*

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What is the most important issue facing the next president? In a January 2016 survey of 1022 adults, the Gallup organization found that Republicans and Democrats agreed on the top four issues, and terrorism was reported as the top challenge by 17% percent of respondents, with a margin of error of plus or minus 4% percentage points at 95% percent confidence level.

5. With these results, one may say, "With 95 percent confidence, one can say that between 13 percent and 21 percent of Americans feel that the most important issue facing the next president is terrorism." What "95 percent confidence" means is that

- a. 95% of all Americans will say terrorism is the most important issue.
- b. one can be certain that between 13% and 21% of Americans will say terrorism is the most important issue.
- c. Gallup obtained the 13% to 21% range by using a method that would give a range containing the true value for 95% of all samples.
- d. 95% of all educated adults would believe the statement.

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Answer Key

1. d

2. c

3. d

4. d

5. c