

## **Population Confidence Interval Practice**

1. Tracie is gathering data for a project via a survey sent out to the rest of her graduating class of 523. In the survey, she asks whether or not they have a job lined up for after graduation. Of the 523 people, 418 people said they have not found a job yet. Tracie has defined the success as the number of people who **have** found a job for after graduation. Solve the following questions with this information.
  - a. Is the sample large enough?
  - b. What is the point estimate?
  - c. What is the margin of error?
  - d. What is the 90% confidence interval?
  - e. Is the confidence interval from the calculator the same as what you calculated?
  - f. Write the correct interpretation.
2. Suppose 150 people applied for a scholarship, but only 5 people were awarded. Estimate the proportion of applicants that are awarded a scholarship.
  - a. Is the sample large enough?

- b. What is the point estimate?
  - c. What is the margin of error?
  - d. Construct a 99% confidence interval.
  - e. Is the confidence interval from the calculator the same as what you calculated?
  - f. Write the correct interpretation.
3. Shelly saw that of the 314 people involved in a survey about a restaurant's quality, 232 people said they were satisfied with the quality. Solve the following questions with this information.
- a. Is the sample large enough?
  - b. What is the point estimate?

- c. What is the margin of error?
  - d. Construct a 95% confidence interval.
  - e. Is the confidence interval from the calculator the same as what you calculated?
  - f. Write the correct interpretation.
4. Jonathan is testing a new recipe for lemon bars to possibly sell at his bakery. Before officially adding the dessert to his menu, he wants to see if it would sell well, so he makes the dessert a temporary menu option for 2 weeks. During those 2 weeks he saw that 1% of the 350 customers each week bought a lemon bar. Solve the following questions for the full 2 weeks.
- a. Is the sample large enough?
  - b. What is the point estimate?
  - c. What is the margin of error?

- d. Construct an 88% confidence interval.
  
  
  
  
  
  
  
  
  
  
- e. Is the confidence interval from the calculator the same as what you calculated?
  
  
  
  
  
  
  
  
  
  
- f. Write the correct interpretation.