

I. Determine whether each situation will produce a random sample. If not, explain why.

- 1.) pointing with your pencil at a class list with your eyes closed as a way to find a sample of students in your class
- 2.) calling every twentieth person listed in the telephone book to determine which political candidate is favored
- 3.) finding the heights of all the boys in a freshmen physical education class to determine the average height of all the boys in your school
- 4.) calling every twentieth registered voter to determine whether people own or rent their homes in your community.
- 5.) predicting local election results by polling people in every twentieth residence in all different neighborhoods of your community
- 6.) to find out why not many students are using the library, a school's librarian gives a questionnaire to every tenth student entering the library
- 7.) testing overall performance of tires on interstate highways only
- 8.) selecting every 50th hamburger from a fast-food restaurant chain and determining its fat content to assess the fat content of hamburgers in fast-food restaurant chains throughout the country
- 9.) assigning all shift workers in a manufacturing plant a unique identification number, and then placing the numbers in a hat and drawing 30 at random to determine the annual average salary of the workers
- 10.) surveying every tenth person who enters the mall to find out about music preferences in that part of the country

II. Determine the margin of error to the nearest percent. Must show your work!!

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| 11.) $p = 26\%, n = 100$ | 12.) $p = 55\%, n = 100$ |
| 13.) $p = 75\%, n = 500$ | 14.) $p = 49\%, n = 1500$ |
| 15.) $p = 96\%, n = 1000$ | 16.) $p = 65\%, n = 1500$ |

III. Complete each problem. Must show your work!!

- 17.) A poll asked people to name the most serious problem facing the country. Forty-six percent of the 800 randomly selected people said "crime". Find the margin of error.
- 18.) Although skim milk has as much calcium as whole milk, only 33% of the 2,406 adults surveyed in Shape Magazine said skim milk is a good calcium resource. Find the margin of error.
- 19.) Three-hundred sixty-seven of the 425 high school students said pizza was the favorite food in the school cafeteria. What is the margin of error?
- 20.) According to a poll of teenagers, 43% said that they use a personal computer at home. If the margin of error is 4%, how many teenagers were polled?
- 21.) A study by the University of Illinois in 1995 showed an increase in productivity by 10% of the employees who wore headsets and listened to music of their choice while they were working. The margin of error for the study was about 7%. How many employees participated in the study?
- 22.) According to a Gallup Poll, 33% of shoppers planned to spend \$1000 or more during a recent holiday season. The margin of error was 3%. How many people were surveyed?
- 23.) One hundred people were asked a yes-or-no question in an opinion poll. How many said "yes" if the margin of error was 9.6%?
- 24.) In a poll conducted by ABC news, 1,020 people surveyed and asked if they supported raising the minimum wage. How many people said they support minimum wage if the MIE = 2.4%?
- 25.) In a recent Harris poll, 1,010 people were surveyed said they considered being a physician to be a very prestigious occupation. How many people said that the a physician was prestigious if the margin of error 3.1%?