

Name: _____

AP Statistics Chapter 12 Graded Assignment

1) Many investigators have studied the effect of the wording of questions on survey responses. Consider the following two versions of a question:

1. Would you favor or oppose a law that would require a person to obtain a police permit before purchasing a gun?
2. Would you favor or oppose a law that would require a person to obtain a police permit before purchasing a gun, or do you think that such a law would interfere too much with the right of citizens to own guns?

463 of 615 people who were asked question 1 favored the law. 403 of 585 who were asked question 2 favored the law. Is there evidence that the phrasing may have influenced responses?

2) Do teachers find their work rewarding? Of 395 elementary teachers surveyed, 224 indicated they were satisfied with their jobs, while 126 of 266 high school teachers indicated satisfaction. Based on this data, is it reasonable to assume elementary teachers tend to be more satisfied with respect to their jobs?

3) The article, "Regress on Early Sex" appeared in the Australian newspaper The Herald (Jan. 2, 1998). After surveying 50 males and 50 females, the author wrote, "While 54% of women thought that they should have waited longer before having sex, only 16% of the men felt that way." Construct and interpret a 95% confidence interval for the difference in the true proportions of men and women who think they should have waited longer.

4) A person released from prison before completing the original sentence is placed under the supervision of a parole board. If that person violates specified conditions of good behavior, the board can order a return to prison. A random sample of individuals who served time in prison for either impulsive or premeditated murder produced the following data:

	Impulsive	Premeditated
n	42	40
Number of No Violations	13	22

Construct and interpret a 98% confidence interval for the difference in the proportion who successfully completed parole for impulsive and premeditated murders.

5) The positive effect of water fluoridation on dental health is well documented. Of 143 randomly selected children in a town without fluoridated water, 106 had decayed teeth. 67 of 119 children from a town with fluoridated water had decayed teeth. Is this evidence to support the claim that fluoridated water may result in fewer decayed teeth?