Video 6.1 Confidence Intervals for Proportions

Example 1: The city council is considering changing an old law that prohibits people from mowing their lawns after 9 pm. To determine if the people of the city would support this change, they surveyed a random sample of 50 people in the city. From the sample, 23 of the 50 people surveyed supported changing the law.

Construct and interpret a 90% confidence interval for the proportion of all people in the city who would support changing the law.

AP Exam Tips:

Example 2: A pharmaceutical company is testing a new medication for reducing cholesterol. 100 volunteers with high cholesterol are randomly assigned to either take the new medication or the current medication the company sells. After 6 months of use, each subject's cholesterol level was measured to determine if their cholesterol level had been reduced. Thirty-nine of the 50 subjects taking the new medication had a reduction in cholesterol. Thirty-four of the 50 subjects taking the current medication had a reduction in cholesterol.

(a) Construct and interpret a 95% confidence interval for the difference in proportions of all people like those in the study who would have reduced cholesterol for each medication (new – current).

(b) Does the company have convincing statistical evidence that there is a difference in the proportion of people who would have reduced cholesterol between the two treatments?

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