

Question #70049, Math / Statistics and Probability

The Center for Information and Research on Civic Learning and Engagement (CIRCLE), an independent youth research organization, reported that 49% of all U.S. adults age 18 to 29 voted in the 2012 presidential election. We believe that a higher proportion of community college students plan to vote in the 2016 presidential election.

H₀: 49% of community college students plan to vote in the next presidential election.

H_a: More than 49% of community college students plan to vote in the next presidential election.

We survey 650 randomly selected community college students and find that 54% of them plan to vote. The P-value is approximately 0.01.

At a significance level of 0.05, what can we conclude?

Answer.

Test statistic:
$$z = \frac{0.54 - 0.49}{\sqrt{\frac{0.49 * 0.51}{650}}} = 2.55.$$

P-value: $p = 0.0054.$

Since the P-value is less than 0.05 we should reject the null hypothesis and conclude that a higher proportion of community college students plan to vote in the 2016 presidential election.

Answer provided by <https://www.AssignmentExpert.com>