Hypothesis Testing for Population Proportion   Name:

November 9, 2008 - Was something amiss with the McCain polls?

Many of the polls badly under-estimated the true percentage of voters who would vote for McCain. Dr Cook wants to check if there was something systematically awry, or was it just simply random variation. Taking one poll result for Iowa, produced by Selzer, from Des Moines. On Oct 31, 2008, they sampled 814 likely voters in Iowa, and predicted that 37% of voters would vote for McCain. The final percentage was 45%.

1. Write down the null and alternative hypotheses.

    $H_o : p$

    $H_A : p$

2. Check the assumptions

    ☐ S/F condition:

    ☐ 10% condition:

3. Compute the test statistic.

$$z = \frac{\hat{p} - p_o}{\sqrt{p_o(1 - p_o)/n}} =$$

4. Without looking up tables, estimate what the P-value is.

    ☐ 0   ☐ 0.1   ☐ 0.5   ☐ 1

5. What is your decision?

    ☐ Reject H_o ☐ Fail to reject H_o

6. Do you agree with Dr Cook's conclusion: *The evidence does not support this being a sample from a population with proportion p=0.45. Something systematically failed in the poll's estimate of the percentage of voters voting for McCain.*

    ☐ Yes ☐ No