8.6 Confidence Intervals

Formulas for Confidence Intervals:

$SE(\hat{p}) = \sqrt{\frac{\hat{p}\,\hat{q}}{n}}$ and z* (see chart below) and $ME = z * (SE(\hat{p}))$

$\hat{p}$ is sample proportion in favour. $\hat{q}$ is the sample proportion NOT in favour. n is your sample size

Your confidence interval is: $\hat{p} \pm ME$

Level of Confidence	**z***
90%	1.645
95%	1.960
99.7%	2.576

Sample Confidence Level Questions:

1. Verify the CBC results:

Application A newspaper stated that 70% of the population supported a particular candidate's position on health care. In a random survey of 50 people, 31 agreed with the candidate's position. Test the significance of this result with a confidence level of 90%. Should the newspaper print a correction?

Does advertising influence behaviour? Before a recent advertising campaign, a children's breakfast cereal held 8% of the market. After the campaign, 18 families out of a sample of 200 families indicated they purchased the cereal. Was the advertising campaign a success? Select a confidence level you feel is appropriate for this situation.