

## STAT 221 Introduction to Probability and Statistics Winter 2012

### Quiz 9

Taken on Tues Jan 24. You may work with one partner, submitting one quiz with both names, provided that you both contribute to the work. You may use your notes.

Recall the form of a theory-based confidence interval for a population proportion  $\pi$ :  $\hat{p} \pm$

$$z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}.$$

1. Remind me: What's the difference between  $\hat{p}$  and  $\pi$ ?
2. The midpoint of this interval is always equal to what?
3. Increasing the confidence level has what effect, if any, on the midpoint of this interval?
4. Increasing the confidence level has what effect, if any, on the margin-of-error of this interval?
5. Increasing the sample size, if all else remains the same, has what effect, if any, on the margin-of-error of this interval?