

Name: _____
Probability & Statistics ACC

Date: _____
Unit 7B & 8B

Review: Unit 7B & 8B

1) A survey of 120 Probability and Statistics students showed that 37 of them feel that there is not enough homework given in the course. Construct a 90% confidence interval for the population proportion of Probability and Statistics students who feel that there is not enough homework given in the course. Interpret your results.

\hat{p} : _____ \hat{q} : _____ n: _____ z: _____

Margin of Error: _____

Interval: _____

Interpretation: _____

2) Mrs. Vaccaro loves watching the television show 90 Day Fiancé. Just her luck, TLC is airing a marathon over a weekend. Of the 47 episodes they are airing back to back, Mrs. Vaccaro has already seen 32 of them. Construct a 95% confidence interval for the population proportion of episodes of 90 Day Fiancé that Mrs. Vaccaro has seen. Interpret your results.

\hat{p} : _____ \hat{q} : _____ n: _____ z: _____

Margin of Error: _____

Interval: _____

Interpretation: _____

3) Mr. Lee is looking to determine the percentage of seniors that plan on attending a four-year college in the fall. He surveys 97 Eastern HS seniors and determines that 82 of them plan on attending a four-year college in the fall. Construct a 95% confidence interval for the population proportion of Dr. Tull's research. Interpret your results.

\hat{p} : _____ \hat{q} : _____ n: _____ z: _____

Margin of Error: _____

Interval: _____

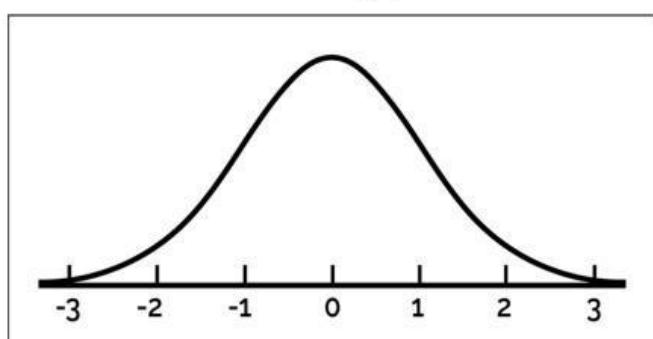
Interpretation: _____

Mrs. Ryan believes that, based on her past knowledge, no more than 82.3% of Eastern HS seniors will plan to attend a four-year college in the fall. Test Mrs. Ryan's hypothesis using the information Mr. Lee collected in his sample. Is there enough evidence to reject Mrs. Ryan's claim at $\alpha = 0.05$?

H_0 = _____ H_a = _____

Circle one: Left tailed Right tailed Two tailed

Sketch the critical area(s)



Find your standardized test statistic (z-score).

Put your standardized test statistic on the graph with an “x.”

Make your decision (circle one).

Reject H_0

Fail to reject H_0

Interpret your decision.

4) Of the 110 Wendy's customers were surveyed, 72 of them were in favor of Wendy's breakfast. Construct a 90% confidence interval for the proportion of Wendy's customers who are in favor of breakfast. Interpret your results.

x: _____

n: _____

c: _____

Interval: _____

Margin of Error: _____

Interpretation: _____

Wendy's marketing team believes that 75% of Wendy's customers are in favor of Wendy's breakfast. Using the data collected from the sample above, test the marketing team's claim. Assume the level of significance is $\alpha = 0.10$?

$$H_0 = \underline{\hspace{2cm}}$$

$$H_a = \underline{\hspace{2cm}}$$

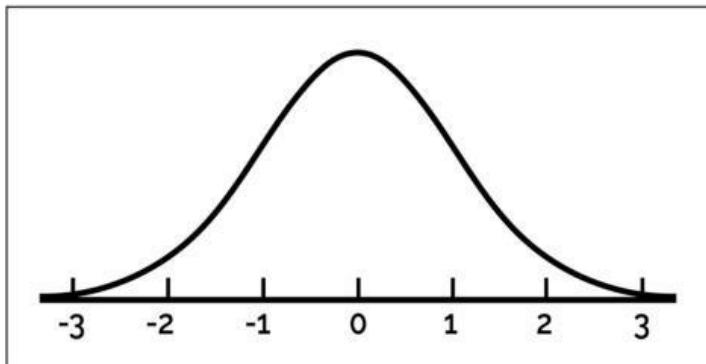
Circle one:

Left tailed

Right tailed

Two tailed

Sketch the critical area(s)



Find your standardized test statistic (z-score).

Put your standardized test statistic on the graph with an "x."

Make your decision (circle one).

Reject H_0

Fail to reject H_0

Interpret your decision.

7) *U.S. News and World Report* states that 92% of freshmen at Penn State return after their first year of college. A statistic student samples 100 Penn State students and finds that 12 of them do not return for their sophomore year. At $\alpha = 0.08$, is there enough evidence to reject the claim that more than 10% of college freshmen do not continue their education at Penn State?

$$H_0 = \underline{\hspace{2cm}}$$

$$H_a = \underline{\hspace{2cm}}$$

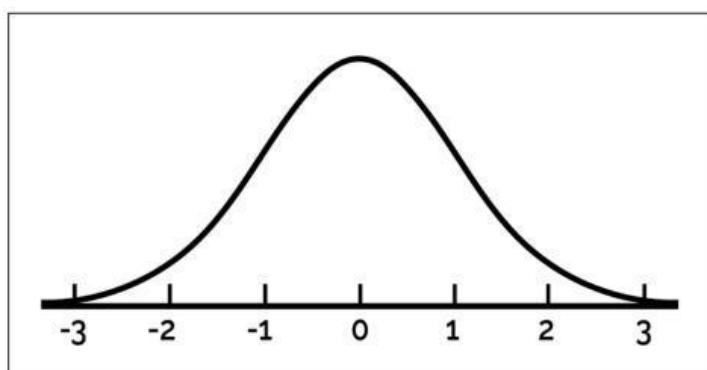
Circle one:

Left tailed

Right tailed

Two tailed

Sketch the critical area(s)



Find your standardized test statistic (z-score).

Put your standardized test statistic on the graph with an “x.”

Make your decision (circle one).

Reject H_0

Fail to reject H_0

Interpret your decision.
