Chapter 8 Review day 2 bellwork answers

Chapter review day 2 check-in

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1. Suppose you want to know if students at FWHS feel it is safe to return to school. You have an SRS of 75 students, 44 of whom say that they feel safe returning to school. Assume there are 1500 students at FWHS. Before constructing a 99% confidence interval for the proportion of all students at FWHS who feel safe returning to school, state the SAMPLE, RANDOM, 10% and Large Counts Conditions and determine if you think they are met.

Sample: p = the true proportion of all students who feel safe returning to FWHS.

P: one-sample z interval for p.

Random: selected randomly

10%: sample size of 75 is less than 10% of total FWHS population

Large counts: $np = 44 \geq 10$, $n(1 - p) = 31 \geq 10$

Confidence Interval:

$$.587 \pm 2.575 \left(\frac{.587(1 - .587)}{75}\right)$$

$$.587 \pm .1465 = (.4405, .7335)$$

We are 99% confident that the interval from 0.4405 to .7335 captures the true proportion of all FWHS students who say the feel safe returning to school.

Because there are values that are smaller than .50 in the confidence interval, we cannot conclude that more than half of the students at FWHS feel safe returning to school.