A random sample of size \( n = 196 \) yielded \( \hat{p} = .64 \).

a. Is the sample size large enough to use the large sample approximation to construct a confidence interval for \( p \)? Explain.
b. Construct a 95% confidence interval for \( p \).
c. Interpret the 95% confidence interval.

\[
\mathrm{CI}_{.95}(\hat{p}) = \left( \hat{p} \pm z_{.025} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right) = (0.64 \pm 1.96 \sqrt{\frac{0.64(1-0.64)}{196}})
\]

\[
z_{.025} = 1.96
\]

\[
= (0.64 \pm 0.07) = (0.57, 0.71)
\]

c. With a 95% confidence, the true value of \( p \) lies between .57 and .71.

a. Yes. The sample size just has to be \( \geq 20 \) for the large sample approximation to be valid.