MATH 1342
Quiz 7.4

A statistics class with a large number of students has scores on an exam that are normally distributed. A sample of 45 of these students are chosen at random, and for the sample, the number of students that succeeded with a C grade or better was 27.

(1) What is $\hat{p}$ rounded to three decimal digits for this sample? Use this value for $\hat{p}$ to construct the 98% confidence interval for the portion of the entire statistics class that succeeded in this way.

(2) A second investigator constructs another confidence interval for population proportion using the above sample (and value for $\hat{p}$ found in (1)). If the interval generated was (.480, .764), then what was the confidence level?

(3) What is the sampling error (or margin of error from the point estimator) in the confidence interval for population proportion generated by this sample when $\alpha = .01$?