Homework Solutions
Chapter 9 – Page 580

Exercise 10

(a) Let p be the proportion of all students who would rate "encouraging group work" as important to their academic success. The hypotheses are

$H_0: \quad p = 0.50$

$H_1: \quad p > 0.50$

(b) We have $n = 735$ and $\hat{p} = \frac{423}{735} = 0.5755$.

$$\begin{aligned} z &= \frac{0.5755 - 0.50}{\sqrt{\frac{(0.50)(0.50)}{735}}} \\ &= \frac{0.0755}{0.01844} \\ &= 4.094. \end{aligned}$$

(c) The p-value is `normalcdf(4.094,E99)` $= 2.123 \times 10^{-5}$.

(d) Reject H_0 because the p-value is (much) smaller than 0.05. More than 50% of all students would rate "encouraging group work" as important to their academic success.