

Name

Solution Key

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question

Find the P-value for the indicated hypothesis test.

Conduct the test @ 95% Confidence

- 1) In a sample of 88 children selected randomly from one town, it is found that 8 of them suffer from asthma. Find the P-value for a test of the claim that the proportion of all children in the town who suffer from asthma is equal to 11%.

1) C

A) 0.2843

B) 0.2157

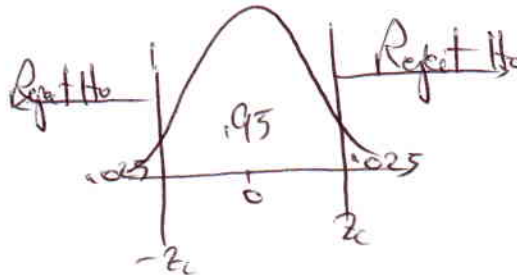
C) 0.5686

D) -0.2843

$$\begin{matrix} n=88 \\ x=8 \end{matrix} \left\{ \begin{array}{l} \rightarrow \bar{p} = \frac{8}{88} = .091 \end{array} \right.$$

$$H_0: p = .11$$

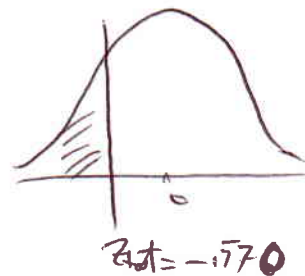
$$H_A: p \neq .11$$



$$\begin{aligned} -z_c &= \text{Inverse Norm}(.025, 0, 1) \\ &= -1.96 \quad \Rightarrow \quad z_c = 1.96 \end{aligned}$$

$$z_{\text{test}} = \frac{(\bar{p} - p)}{\sqrt{\frac{p(1-p)}{n}}} = \frac{(.091 - .11)}{\sqrt{\frac{.11(1-.11)}{88}}} = -1.570$$

\therefore Insufficient evidence to Reject H_0
 \rightarrow Fail to Reject H_0
 \rightarrow Fail to Support H_A



$$\begin{aligned} \text{P-value} &= 2 \text{ normalcdf}(-1.96, -1.570, 0, 1) \\ &= 0.569 \quad \Rightarrow \quad C \end{aligned}$$