

Name _____

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

Solve the problem.

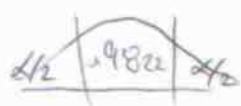
1) Find the value of $-z_{\alpha/2}$ that corresponds to a level of confidence of 98.22 percent.

A) 0.0089

B) 2.37

C) -2.1

D) -2.37

1) D

$$\alpha/2 = (1 - 0.9822) / 2 = 0.0089$$

$$-z_{\alpha/2} = \text{InvNorm}(0.0089) = -2.37$$

Express the confidence interval in the form of $\hat{p} \pm E$.

2) $0.02 < p < 0.48$

A) $\hat{p} = 0.25 - 0.23$ B) $\hat{p} = 0.25 \pm 0.23$ C) $\hat{p} = 0.23 \pm 0.5$ D) $\hat{p} = 0.25 \pm 0.5$ 2) B

$$\left. \begin{aligned} E &= \frac{(0.48 - 0.02)}{2} = 0.23 \\ \hat{p} &= \frac{(0.48 + 0.02)}{2} = 0.25 \end{aligned} \right\} \Rightarrow \hat{p} = 0.25 \pm 0.23$$

Use the given degree of confidence and sample data to construct a confidence interval for the population proportion p .

3) $n = 58, x = 28$; 95 percent

A) $0.375 < p < 0.591$ B) $0.374 < p < 0.592$ C) $0.353 < p < 0.613$ D) $0.354 < p < 0.612$ 3) D

STAT $\rightarrow$ TESTS $\rightarrow$ OPTION A1:

$$X = 28$$

$$n = 58$$

95% CI

$$\text{CALCULATE } p \in (0.354, 0.612)$$