

## INFERENCE 1

In a random sample of 1,250 adult drivers, 450 said that they would cut their driving by 10 percent if this significantly helped the environment. Find a 95 percent confidence interval estimate of the proportion of adult drivers who are willing to cut their driving by 10 percent to help the environment.

$$(A) \ .36 \pm 1.96 \frac{(.10)(.36)}{\sqrt{1,250}}$$

$$(D) \ .36 \pm 1.96 \sqrt{\frac{(.36)(.64)}{1,250}}$$

$$(B) \ .36 \pm 1.96 \sqrt{\frac{(.10)(.90)}{1,250}}$$

$$(E) \ .36 \pm 1.96 \frac{\sqrt{(.36)(.64)}}{1,250}$$

$$(C) \ .36 \pm 1.96 \frac{(.10)(.90)}{\sqrt{1,250}}$$

**Answer:** (D)  $\hat{p} = \frac{450}{1,250} = .36$ , the critical z-scores for 95 percent are  $\pm 1.96$ ,  
and the standard error is  $\sqrt{\frac{\hat{p}(1-\hat{p})}{n}} = \sqrt{\frac{(.36)(.64)}{1,250}}$ .