

7.  $\hat{p} = .32$      $E = .02$

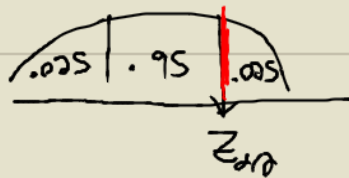
95% CONFIDENCE     $X = ?$

$LB = \hat{p} - E = .32 - .02 = .30$

$UB = \hat{p} + E = .32 + .02 = .34$

$\hat{p} = \frac{X}{n}$

FIND  $Z_{\alpha/2}$



INVNORM(.975)

$Z_{\alpha/2} = 1.96$

$LB = \hat{p} - Z_{\alpha/2} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$

$.30 = .32 - 1.96 \sqrt{\frac{.32(1-.32)}{n}}$

$-.02 = -1.96 \sqrt{\frac{.32(.68)}{n}}$

$-.02 = -1.96 \sqrt{\frac{.2176}{n}}$

$\frac{-.02}{-1.96} = \sqrt{\frac{.2176}{n}}$

$.0102040816 = \sqrt{\frac{.2176}{n}}$

$(.0102040816)^2 = \left(\sqrt{\frac{.2176}{n}}\right)^2$

$1.04123282E-4 = \frac{.2176}{n}$

$0.000104123282n = .2176$

~~$0.000104123282n = .2176$~~

~~$0.000104123282$~~  =  $\frac{.2176}{.000104123282}$

$n = 2089.8304$

$n = 2090$

SO

$\hat{p} = \frac{X}{n}$

$.32 = \frac{X}{2090}$

$.32(2090) = X$

$669 = X$