Answer on Question #41512 – Math - Statistics and Probability

$\alpha = .05, 1 - \alpha = .95, \frac{\alpha}{2} = .025, z_{.025} = 1.960.$

Lower limit for 95% confidence interval:

$\bar{p} - z_{\frac{\alpha}{2}} \sqrt{\frac{\bar{p}(1-\bar{p})}{n}} = \bar{p} - 1.960 \sqrt{\frac{\bar{p}(1-\bar{p})}{n}}$, where $\bar{p} = \frac{x}{n}$, x=number having the characteristic in a random sample of size n.

Upper limit for 95% confidence interval:

$\bar{p} + z_{\frac{\alpha}{2}} \sqrt{\frac{\bar{p}(1-\bar{p})}{n}} = \bar{p} + 1.960 \sqrt{\frac{\bar{p}(1-\bar{p})}{n}}$, where $\bar{p} = \frac{x}{n}$, x=number having the characteristic in a random sample of size n.