



## Sample Error by different Sample Sizes and Confidence Levels (CL) for a Sample Statistic of 50%

Example Sample Sizes	At the 95% Confidence Level	At the 90% Confidence Level
	+/-	+/-
30	17.9%	15.1%
50	13.9%	11.7%
75	11.5%	9.5%
100	9.8%	8.3%
150	8.0%	6.7%
200	6.9%	5.8%
250	6.2%	5.2%
300	5.7%	4.8%
400	4.9%	4.1%
500	4.4%	3.7%
600	4.0%	3.4%
700	3.7%	3.1%
800	3.5%	2.9%
900	3.3%	2.7%
1,000	3.1%	2.6%
1,500	2.5%	2.1%
<b>Z Value</b>	<b>1.96</b>	<b>1.65</b>

You can find your own sample error for any sample size and sample statistic using this formula...

$$d = +/- Z \sqrt{\frac{P(1-P)}{n}}$$

Or solve for the sample size...

$$n = \frac{Z^2 \times P(1-P)}{d^2}$$

d = sample error  
 Z = Confidence level and the corresponding "Z" value or standard deviation is 1.96 for 95% CL and 1.65 for 90% CL  
 P = sample statistic (i.e., 50% in our example)  
 n = sample size