

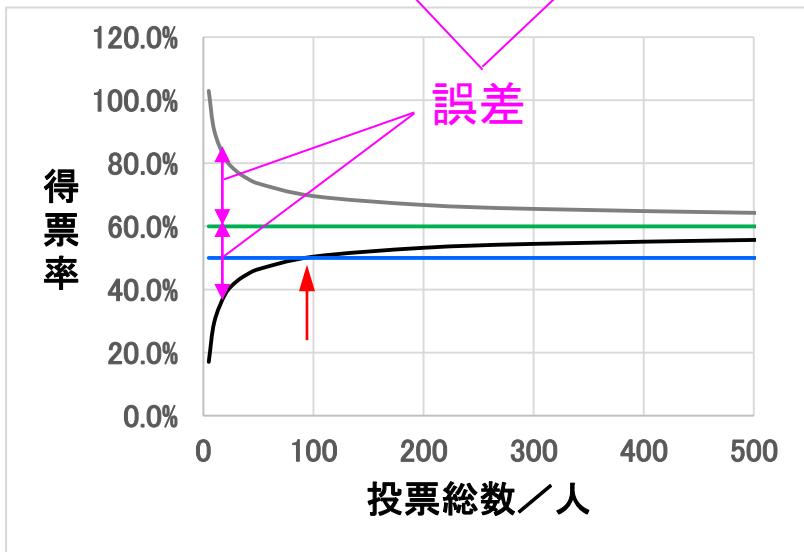
# 最終的に60%の得票率で当選する選挙において、当確となるのはいつか？

ある投票数 $n$ で獲得した得票率を $r$ とおく  
 信頼係数95%で最終の得票率 $p$ を推定すると

$$r - 1.96 \sqrt{\frac{r(1-r)}{n}} \leq p \leq r + 1.96 \sqrt{\frac{r(1-r)}{n}}$$

で表される

得票率 $r = 60\%$ での計算結果



得票率 $r$

推定得票率  
 $p$

投票総数／人

	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	下限	上限
5	26.3%	35.1%	40.2%	42.9%	43.8%	42.9%	40.2%	35.1%	26.3%	0.0%	17.1%	102.9%
10	18.6%	24.8%	28.4%	30.4%	31.0%	30.4%	28.4%	24.8%	18.6%	0.0%	29.6%	90.4%
20	13.1%	17.5%	20.1%	21.5%	21.9%	21.5%	20.1%	17.5%	13.1%	0.0%	38.5%	81.5%
30	10.7%	14.3%	16.4%	17.5%	17.9%	17.5%	16.4%	14.3%	10.7%	0.0%	42.5%	77.5%
40	9.3%	12.4%	14.2%	15.2%	15.5%	15.2%	14.2%	12.4%	9.3%	0.0%	44.8%	75.2%
50	8.3%	11.1%	12.7%	13.6%	13.9%	13.6%	12.7%	11.1%	8.3%	0.0%	46.4%	73.6%
100	5.9%	7.8%	9.0%	9.6%	9.8%	9.6%	9.0%	7.8%	5.9%	0.0%	50.4%	69.6%
200	4.2%	5.5%	6.4%	6.8%	6.9%	6.8%	6.4%	5.5%	4.2%	0.0%	53.2%	66.8%
300	3.4%	4.5%	5.2%	5.5%	5.7%	5.5%	5.2%	4.5%	3.4%	0.0%	54.5%	65.5%
500	2.6%	3.5%	4.0%	4.3%	4.4%	4.3%	4.0%	3.5%	2.6%	0.0%	55.7%	64.3%
600	2.4%	3.2%	3.7%	3.9%	4.0%	3.9%	3.7%	3.2%	2.4%	0.0%	56.1%	63.9%
700	2.2%	3.0%	3.4%	3.6%	3.7%	3.6%	3.4%	3.0%	2.2%	0.0%	56.4%	63.6%
800	2.1%	2.8%	3.2%	3.4%	3.5%	3.4%	3.2%	2.8%	2.1%	0.0%	56.6%	63.4%
900	2.0%	2.6%	3.0%	3.2%	3.3%	3.2%	3.0%	2.6%	2.0%	0.0%	56.8%	63.2%
1000	1.9%	2.5%	2.8%	3.0%	3.1%	3.0%	2.8%	2.5%	1.9%	0.0%	57.0%	63.0%
1500	1.5%	2.0%	2.3%	2.5%	2.5%	2.5%	2.3%	2.0%	1.5%	0.0%	57.5%	62.5%
2000	1.3%	1.8%	2.0%	2.1%	2.2%	2.1%	2.0%	1.8%	1.3%	0.0%	57.9%	62.1%
2500	1.2%	1.6%	1.8%	1.9%	2.0%	1.9%	1.8%	1.6%	1.2%	0.0%	58.1%	61.9%
3000	1.1%	1.4%	1.6%	1.8%	1.8%	1.8%	1.6%	1.4%	1.1%	0.0%	58.2%	61.8%
5000	0.8%	1.1%	1.3%	1.4%	1.4%	1.4%	1.3%	1.1%	0.8%	0.0%	58.6%	61.4%
10000	0.6%	0.8%	0.9%	1.0%	1.0%	1.0%	0.9%	0.8%	0.6%	0.0%	59.0%	61.0%
50000	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%	0.0%	59.6%	60.4%