The number of voters sampled from the first state (n1) = 100, and the number of voters

sampled from the second state (n2) = 100.

The mean of the difference in sample proportions: E(p1 - p2) = P1 - P2 = 0.52 - 0.47 = 0.05.

The standard deviation of the difference:

sd = sqrt{ [ proportion of repub\*(proportion of democ) / n1 ] + [ proportion of

repub\*(proportion of democ) / n2 ] }

sd = sqrt{ [ (0.52)(0.48) / 100 ] + [ (0.47)(0.53) / 100 ] }

sd = sqrt (0.002496 + 0.002491) = sqrt(0.004987) = 0.0706

we need to transform the random variable (p1 - p2) into a z-score.

That transformation appears below.

Z(p1 - p2) = (x – μ(p1 - p2)) / sd = = (0 - 0.05)/0.0706 = -0.7082

Using z score table

P(z &lt;=0.7082) = 0.24

the probability of a z-score being -0.7082 or less is 0.24