Question ID e351a82d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	Hard

ID: e351a82d

Poll Results

Angel Cruz	483
Terry Smith	320

The table shows the results of a poll. A total of 803 voters selected at random were asked which candidate they would vote for in the upcoming election. According to the poll, if $6{,}424$ people vote in the election, by how many votes would Angel Cruz be expected to win?

A. 163

B. $1{,}304$

C. $3{,}864$

D. $5{,}621$

ID: e351a82d Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that 483 out of 803 voters responded that they would vote for Angel Cruz. Therefore, the proportion of voters from the poll who responded they would vote for Angel Cruz is $\frac{483}{803}$. It's also given that there are a total of $6{,}424$ voters in the election. Therefore, the total number of people who would be expected to vote for Angel Cruz is $6{,}424\left(\frac{483}{803}\right)$, or $3{,}864$. Since $3{,}864$ of the $6{,}424$ total voters would be expected to vote for Angel Cruz, it follows that $6{,}424 - 3{,}864$, or $2{,}560$ voters would be expected not to vote for Angel Cruz. The difference in the number of votes for and against Angel Cruz is $3{,}864 - 2{,}560$, or $1{,}304$ votes. Therefore, if $6{,}424$ people vote in the election, Angel Cruz would be expected to win by $1{,}304$ votes.

Choice A is incorrect. This is the difference in the number of voters from the poll who responded that they would vote for and against Angel Cruz.

Choice C is incorrect. This is the total number of people who would be expected to vote for Angel Cruz.

Choice D is incorrect. This is the difference between the total number of people who vote in the election and the number of voters from the poll.

Question Difficulty: Hard