



EXAMPLE 5 TAKS PRACTICE: Multiple Choice

A polling company conducts a poll for a U.S. presidential election. The margin of error is $\pm 6\%$. How many people did the company survey?

- (A) 36 (B) 278 (C) 400 (D) 2780

REVIEW RADICALS

For help with solving equations involving square roots, see p. 452.

Solution

Use the margin of error formula.

$$\text{Margin of error} = \pm \frac{1}{\sqrt{n}}$$

Write margin of error formula.

$$\pm 0.06 = \pm \frac{1}{\sqrt{n}}$$

Substitute ± 0.06 for margin of error.

$$0.0036 = \frac{1}{n}$$

Square each side.

$$n \approx 278$$

Solve for n .

There were 278 people surveyed.

► The correct answer is B. (A) (B) (C) (D)



GUIDED PRACTICE for Examples 4 and 5

3. **INTERNET** In a survey of 1202 people, 11% said that they use the Internet or e-mail more than 10 hours per week. What is the margin of error for the survey? How many people would need to be surveyed to reduce the margin of error to $\pm 2\%$?

11.4 EXERCISES

HOMEWORK KEY

= **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 7, 19, and 29

= **TAKS PRACTICE AND REASONING**
Exs. 14, 23, 29, 31, 33, and 34

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: A sample for which each member of a population has an equal chance of being selected is a(n) ? sample.
2. **WRITING** Describe the difference between an unbiased sample and a biased sample.

CLASSIFYING SAMPLES Identify the type of sample described. Then tell if the sample is biased. Explain your reasoning.

3. A taxicab company wants to know if its customers are satisfied with the service. Each driver surveys every tenth customer during the day.
4. A town council wants to know if residents support having an off-leash area for dogs in the town park. Eighty dog owners are surveyed at the park.
5. An English teacher needs to pick 5 students to present book reports to the class. The teacher writes the names of all students in the class on pieces of paper, puts the pieces in a hat, and chooses 5 names without looking.

EXAMPLES 1 and 2

on pp. 766–767
for Exs. 3–5