

Data inferences

A random sample of 35 four-door passenger vehicles had a mean gas mileage, in miles per gallon (mpg), of 25.9 mpg. The estimate had a margin of error of 2.6 mpg at a 98% confidence level. Of the following, which is the most plausible value for the true mean gas mileage of all four-door passenger vehicles?

-
- A 24 mpg
-
- B 29 mpg
-
- C 32 mpg
-
- D 35 mpg
-

Based on random samples of river heights, oceanographers estimate that 4,800 cubic kilometers (km^3) of freshwater is discharged into the Arctic Ocean annually. The estimate has a margin of error of 240 km^3 at the 90% confidence level. Which of the following is the most reasonable claim about the volume of freshwater discharged annually into the Arctic Ocean?

-
- A It is between 4,800 and 5,040 km^3 .
-
- B It is between 4,560 and 5,040 km^3 .
-
- C It is between 240 and 4,800 km^3 .
-
- D It is between 240 and 4,320 km^3 .
-

A survey of 9,000 randomly selected dentists practicing in the United States (US) found that 3,600 of them used text messaging to remind clients of upcoming appointments. If there were 147,000 practicing dentists in the US, approximately how many of them used text messaging for that purpose?

-
- A 12,600 dentists
-
- B 58,800 dentists
-
- C 159,600 dentists
-
- D 367,500 dentists
-

Data inferences

A random sample of international flights in 2013 showed that 79% of the flights arrived within 15 minutes of their scheduled arrival time, and this estimate had a margin of error of 3% at a 95% confidence level. Which of the following conclusions is best?

-
- A Exactly 79% arrived within 15 minutes of their scheduled times.
-
- B Exactly 76% arrived within 15 minutes of their scheduled times.
-
- C Between 76% and 82% arrived within 15 minutes of their scheduled times.
-
- D Between 92% and 98% arrived within 15 minutes of their scheduled times.
-

In a poll of 1,578 randomly selected American adults, 44.8% of the respondents said that airlines should allow in-flight calls on airplanes. The poll reported a margin of error of 2.5% at a 95% confidence level. Which of the following is most likely to be equal to the percentage of all American adults who would say that airlines should allow in-flight calls?

-
- A 40%
-
- B 43%
-
- C 48%
-
- D 95%
-