

11. About 95% of the intervals from each random sample would capture the true proportion of all U.S. adults who would favor an amendment to the Constitution that would permit organized prayer in schools.

15. 84% of the intervals did contain the true parameter, which suggests that these were 80% or 90% confidence intervals.

17. Explaining Confidence

- (a) Incorrect; the interval provides plausible values for the mean BMI of all women, not plausible value for individual BMI measurements, which will be much more variable.
- (b) Incorrect; we shouldn't use results of one sample to predict the results of future samples
- (c) Correct; a confidence interval provides an interval of plausible values for a parameter.
- (d) Incorrect; the population mean always stays the same, regardless of the number of samples taken.
- (e) Incorrect; we are 95% confident that the population mean is between 26.2 and 27.4, but that doesn't rule out other possibilities.

19. Prayer in school again

- (a) The length would decrease
- (b) One of the practical difficulties would include nonresponse, For example, if people selected but not responding have difference views from those responding, the estimated proportion may be off by more than 3 percentage points.

21. California Traffic

- (a) If we constructed a 90% confidence interval using each of the many random samples taken, about 90% of the intervals would capture the true average travel time to work for all employed California adults.
- (b) Decrease confidence level. Drawback: less confidence that our interval captures the true proportion. Increase sample size. Drawback: larger samples cost more time and money.
- (c) People who have longer travel times to work may have less time to respond to a survey. This would cause our estimate from the sample to be less than the true mean travel time to work. The bias due to nonresponse is not accounted for by the margin of error because the margin of error accounts for only the variability we expect from random sampling.

23. b

24. e

25. e

26. c