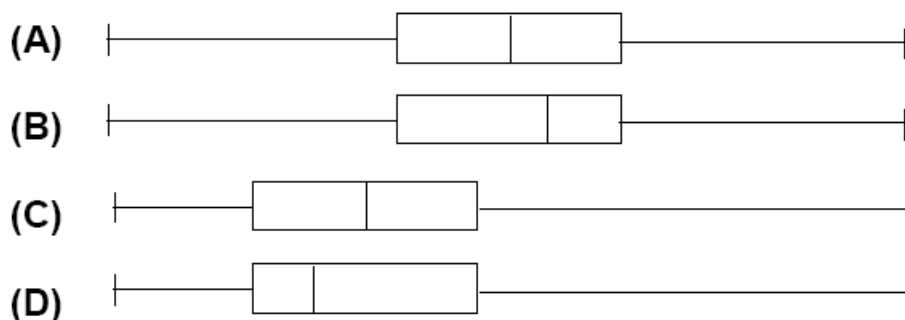


# Classroom Voting Questions: Statistics

## Goodness of Fit

1. If a large sample were drawn from a chi-square ( $\chi^2$ ) distribution (with degrees of freedom  $\leq 10$ ) and accurately represented the population, which of the following is most likely to be a box plot of that sample?



**(E) Two from (A)-(D) are correct.**

**(F) Three from (A)-(D) are correct.**

**(G) All from (A)-(D) are correct.**

2. Which of the following statements concerning the Chi-Square Goodness-of-Fit test is true?
- (a) The test basically involves converting observed frequencies into relative frequencies so that, roughly speaking, they can be compared to established or hypothesized relative frequencies.
  - (b) One explicit assumption of the test is that we have a large sample.
  - (c) One explicit assumption of the test is that all of the expected frequencies be at least 1.
  - (d) The test is usually two-tailed.
3. Note that a chi-square random variable with one degree of freedom is the square of a standard normal variable. Let  $X$  be a chi-square random variable with one degree of freedom. Find  $P(X \geq 1)$ .

- (a) 0.05
- (b) 0.16
- (c) 0.32
- (d) The answer cannot be determined from the information given.