

**SOLUTIONS**

- (1) When doing hypothesis testing, what is  $\alpha$ ? (C)
- (2) Which rely on the Central Limit Theorem? (C)
- (3) Which is closest to the 95% interval estimate of the population mean? (E)
- (4) In hypothesis testing, what does a very small p-value mean? (B)
- (5) What is a Type II error? (B)
- (6) What is the p-value? (E)
- (7) What should you conclude? (A)
- (8) Suppose you are testing the difference between two population means to answer a research question about whether prices are higher in Population 1 compared to Population 2. You obtain the following:  $\bar{X}_1 = \$25.55$ ,  $\bar{X}_2 = \$18.03$  and  $p\text{-value} = 0.0047$ . What can you conclude about the economic and statistical significance of the difference? (C)
- (9) Which of the following graphs shows the probability of making a Type II error (shaded area)? (D)
- (10) What is the rejection region? (C)
- (11) What is the test statistic to compare with the rejection region? (D)
- (12) What is the point estimate of the average number of accidents for those who do NOT use their cell while driving? (A)
- (13) Consider the difference in the fraction that have been in one or more accidents between these two groups. What is the 95% interval estimate of the difference? (B)
- (14) Which conclusion can be drawn? (C)
- (15) What are the point estimates of the proportion of ordinary mail that arrives within 2-days and the proportion of Priority Mail that arrives within 2-days? (D)
- (16) At a 5% significance level, do these data support the claims of the spokesperson? (A)
- (17) You are asked to investigate salary discrepancies between male and female workers. In which of the following circumstances would a matched pair approach be recommended? (D)
- (18) What is the p-value? (C)