significance level to test Mendel's claim that under the same circumstances, 25% of offspring peas will be yellow.

10. M&Ms Data Set 20 in Appendix B lists data from 100 M&Ms, and 8% of them are brown. Use a 0.05 significance level to test the claim of the Mars candy company that the percentage of brown M&Ms is equal to 13%.

11. Identify Theft In a KRC Research poll, 1002 adults were asked if they felt vulnerable to identify theft, and 531 of them said "yes." Use a 0.05 significance level to test the claim that the majority of adults feel vulnerable to identity theft.

12. Plane Seats In a 3M Privacy Filters poll, 806 adults were asked to identify their favorite seat when they fly, and 492 of them chose a window seat. Use a 0.01 significance level to test the claim that the majority of adults prefer window seats when they fly.

13. Gender Selection The Genetics and IVF Institute conducted a clinical trial of the XSORT method designed to increase the probability of conceiving a girl. As of this writing, 945 babies were born to parents using the XSORT method, and 879 of them were girls. Use a 0.01 significance level to test the claim that the XSORT method is effective in increasing the likelihood that a baby will be a girl.

14. Gender Selection The Genetics and IVF Institute conducted a clinical trial of the YSORT method designed to increase the probability of conceiving a boy. As of this writing, 291 babies were born to parents using the YSORT method, and 239 of them were boys. Use a 0.01 significance level to test the claim that the YSORT method is effective in increasing the likelihood that a baby will be a boy.

15. Touch Therapy When she was 9 years of age, Emily Rosa did a science fair experiment in which she tested professional touch therapists to see if they could sense her energy field. She flipped a coin to select either her right hand or her left hand, then she asked the therapists to identify the selected hand by placing their hand just under Emily's hand without seeing it and without touching it. Among 280 trials, the touch therapists were correct 123 times (based on data in "A Close Look at Therapeutic Touch," *Journal of the American Medical Association,* Vol. 279, No. 13). Use a 0.10 significance level to test the claim that touch therapists use a method equivalent to random guesses. Do the results suggest that touch therapists are effective?

16. Touch Therapy Repeat the preceding exercise using a 0.01 significance level. Does the conclusion change?

17. Tennis Instant Replay The Hawk-Eye electronic system is used in tennis for displaying an instant replay that shows whether a ball is in bounds or out of bounds so players can challenge calls made by referees. In the most recent U.S. Open (as of this writing), singles players made 611 challenges and 172 of them were successful with the call overturned. Use a 0.01 significance level to test the claim that fewer than 1/3 of the challenges are successful. What do the results suggest about the ability of players to see calls better than referees?

18. Perception and Reality In a presidential election, 308 out of 611 voters surveyed said that they voted for the candidate who won (based on data from ICR Survey Research Group). Use a 0.10 significance level to test the claim that among all voters, the percentage who believe that they voted for the winning candidate is equal to 43%, which is the actual percentage of votes for the winning candidate. What does the result suggest about voter perceptions?

19. Cell Phones and Cancer In a study of 420,095 Danish cell phone users, 135 subjects developed cancer of the brain or nervous system (based on data from the *Journal of the National Cancer Institute* as reported in *USA Today*). Test the claim of a somewhat common belief that such cancers are affected by cell phone use. That is, test the claim that cell phone users develop cancer of the brain or nervous system at a rate that is different from the rate of 0.0340% for people who do not use cell phones. Because this issue has such great importance, use a 0.005 significance level. Based on these results, should cell phone users be concerned about cancer of the brain or nervous system?