Illegal music A random sample of 168 students were asked how many songs were in their digital music library and what fraction of them were legally purchased. Overall, they reported having a total of 117,079 songs, of which 23.1% were legal. Construct a 95% confidence interval for the fraction of legal digital music.
Answer to Illegal music \( .231 \pm .00241 \).
Grading comparison  The Employee Benefit Research Institute reports that 27% of males anticipate having enough money to live comfortably in retirement, but only 18% of females express that confidence. If these results were based on samples of 250 people of each gender, would you consider this strong evidence that men and women have different outlooks on this question? If you conclude that there is a difference, give a 95% confidence interval for this difference.
Answer to Grading comparison \( z = 2.41, \ P = .0160, \) 95% confidence interval is from 1.7% to 16.3% more confidence from men about having enough money for retirement.
**Teen smoking**  A Vermont study published in December 2001 by the American Academy of Pediatrics examined parental influence on teenagers’ decisions to smoke. A group of students who had never smoked were questioned about their parents’ attitudes toward smoking. These students were again questioned two years later to see if they had started smoking. The researchers found that among the 284 students who indicated that their parents disapproved of kids smoking, 54 had become established smokers. Among the 41 students who initially said their parents were lenient about smoking, 11 became smokers. Do these data provide strong evidence that parental attitude influences teenagers’ decisions about smoking?
Answer to Teen smoking $z = -1.17$, $P = .2422$. 