1. Successful hotel managers must have personality characteristics often thought of as feminine (such as “compassionate”). The Bem Sex-Role Inventory (BSRI) is a personality test that gives separate ratings for female and male stereotypes, both on a scale of 1 to 7 (using what is called a “Likert Scale”…similar to what SLU uses on its course evaluations). A random sample of 148 male general managers of three-star and four-star hotels had a mean BSRI femininity score of 5.29 and standard deviation of 0.78. The overall mean score for the general male population is 5.19. Does this sample provide sufficient evidence that male hotel managers (at 3 and 4 star hotels) have significantly higher femininity scores than men in general?

1. While exercising, myocardial blood flow (MBF) has to increase in order to match the increased need of oxygen in the body. While caffeine has been shown to slightly increase blood flow during regular physical exertion, how does caffeine affect blood flow during exercise (when blood flow is typically already elevated)? Doctors studying healthy subjects measured MBF (ml/min/g) during bicycle exercise before and after giving the eight subjects a dose of caffeine that was equivalent to drinking two cups of coffee. The average change in MBF for the eight subjects was (i.e., on average it decreased by 1.154 ml/min/g) after ingesting the caffeine, with a standard deviation (*s*) of 0.629. Further, a display of the data indicated no outliers. Is this sufficient evidence to suggest that there is a significant change in MBF after ingesting caffeine while exercising?