chapter problem

Using colors for creativity and accuracy

Some studies are quite intriguing as they reveal various facets of human behavior. One such study is reported in the article "Blue or Red? Exploring the Effect of Color on Cognitive Task Performances," by Mehta and Zhu, *Science Express*, DOI: 10.1126. The researchers from the University of British Columbia conducted studies to investigate the effects of color on creativity and cognitive tasks.

To investigate the effects of color on creativity, subjects with a red background were asked to think of creative uses for a brick, while other subjects with a blue background were given the same task. Both groups were allowed one minute. Responses were scored by a panel of judges and results from scores of creativity were as follows:

Creativity Scores	
Red Background:	n35, 3.39, s0.97
Blue Background:	n36, 3.97, s0.63

In other trials, subjects were given detail-oriented tasks consisting of words displayed on a computer screen with background colors of red and blue. The subjects studied 36 words for 2 minutes, then they were asked to recall as many of the words as they could after waiting 20 minutes. Results from scores on the word recall test are given below.

Accuracy Scores	
Red Background:	n35, 15.89, s5.90
Blue Background:	n36, 12.31, s5.48

Examining the above results, we can see that creativity scores were higher for those having a blue background. It's obvious that the mean of 3.97 is greater than the mean of 3.39, but is the difference *significant*? We can also see that the accuracy scores were higher for those having a red background. The mean of 15.89 is greater than the mean of 12.31, but is the difference *significant*? This is an ideal situation for the use of hypothesis tests. Unlike the hypothesis tests of Chapter 8, this situation involves *two* populations instead of just one. Section 9-3 will present methods for testing claims about *two* population means, and we will consider the test results above in that section. We will then be able to determine whether it appears that the color blue fosters creativity while red fosters accuracy in detail-oriented tasks.