**1**.An independent test agency is interested in determining whether the mean number of color pages printed using name-brand cartridges exceeds the mean number of color pages printed by generic   
cartridges.  A random sample of 6 users were given both a name-brand cartridge and a generic cartridge and they used their printers until the ink ran out using each cartridge.  The number of pages printed were: Printer User Pages using name-brand cartridge Pages using generic cartridge   
1 306 300   
2 266 260   
3 402 357   
4 299 286   
5 306 290   
6 257 260   
Test, at a .05 level of significance, the hypothesis that name-brand cartridges produce at least 10 more printed pages than generic cartridges, given normality.

**2**.A study was performed on the difference in measurement by two evaluators of the cardiac output of 12 patients by using Doppler echocardiography.  Both observers took measurements from the same patients.  The measured outcomes were as follows:   
Patient    1 2 3 4 5 6 7 8 9 10 11 12   
Eval 1 4.8 5.6 7.4 6.6 6.6 6.0 6.4 6.5 6.6 7.0 7.2 7.4   
Eval 2 5.6 6.0 7.6 6.6 6.6 6.4 6.8 6.4 6.8 6.2 7.0 7.0   
Perform the appropriate hypothesis test to determine if the average cardiac outputs measured by the two evaluators differ, using a .01 level of significance.   
  
**3**.The Las Vegas Restaurant Magazine in an effort to evaluate the difference in satisfaction of customers at Buffets and at gourmet restaurants randomly selected customers at the following   
establishments and recorded their satisfaction with their meal on a scale from a low of 1 to   
a high of 10.  The results were:   
Hotel Restaurant & rating Buffet & rating   
Bellagio     Picasso    8 The Buffet at Bellagio 6   
Wynn    Alex    8 Wynn Buffet 7   
Paris    Eiffel Tower    7 Le Village Buffet 8

4)According to answerbag.com the average male height is 70 inches with a standard deviation of 3 inches while the average female height is 63.5 inches with a standard deviation of 2.5 inches.   
This means the typical male is 6 ½ inches taller than the average female.  A random sample of 25 Tennessee males was found to have an average height of 69.5 inches, with a standard deviation of 2.8 inches  Another random sample of 30 Tennessee females was found to have an average height of 64 inches, with a standard deviation of 2.3 inches. Based on these samples, test the hypothesis that the difference in Tennessee male and females heights is the same as the differences stated on as the as the differences stated on answerbag.com, given that heights are normally distributed.  