Instructions: Show all work. Answers without work can only be graded all or nothing. Partial credit is available only when work is shown. Answer all parts of each problem. Provide explanations as indicated. You may use Minitab or any other statistical software (such as a calculator or Excel) to complete any required statistical calculations or graphs.

1. Use the data on Sheet 1 in the data file **143quiz8data.xlsx** to find a 90% confidence interval for the difference of mean times between those with Basic cable and those with Extended cable.

2. Use the data on Sheet 3 to construct a 95% confidence interval for the mean difference of the paired data.

3. Use the data on Sheet 2 to construct a 99% confidence interval for the difference of proportion of female births between teenage mothers (those under 19) and mothers in their 20s.