**Please show the solutions step by step and word-process formulas using Equation Editor.**

1. Annual family dental expenses for the families of a random sample of ten employees of a company are given below. You can assume the family dental expenses for the employees of the company are normally distributed.

$450, $390, $550, $140, $690, $600, $250, $330, $490, $810

Mean is $47.

1. Compute the standard deviation of the sample.
2. Determine the point estimate and 95% confidence interval for the mean family dental expenses of all employees of the company.
3. Government’s job approval rating hit a historic low Wednesday, reaching into the mid to low teens according to the latest Gallup poll findings. The approval rating dropped 5 percentage points over the past month, from a 19 percent approval in June to 14 percent in July. The new record is 4 percentage points lower than Government’s previous low of 18 percent last May.

The declining poll numbers can be attributed to sliding support for Democrats: Over the past month, their support has slid from 23 percent approval in June to 11 percent in July. During that time, the Republican Party’s approval rating has risen, from 15 percent in June to 19 percent in July. The survey of 1,106 adults, conducted by telephone July 10-13, has a sampling error of plus or minus 3 percent.

1. What is the point estimate of the Government’s job approval rating in July 2008?
2. Given that the sample size for the opinion poll was 1106 adults, compute the 95% confidence interval for the population proportion. Note: Your margin of error would be lower than the + /- 3% in the report. The number in the report is the maximum margin of error, which occurs when the sample proportion is 50%.