

## Question 4

Congressional Quarterly tracks the percentage of the time members of Congress vote with their party on partisan roll call votes (i.e., those in which a majority of Republicans oppose a majority of Democrats). The measure can take values from 0 to 100. If we take a simple random sample of 11 Democratic incumbents from the group described above and their mean party unity score is 93.87 with a sample standard deviation of 9.50, what is the 90% confidence interval for our estimate of mean party unity among this group as a whole? Please show your work!

$$n = 11$$

$$\bar{y} = 93.87$$

$$s_x = 9.50$$

$$\alpha = .1$$

$$CI = \bar{y} \pm T_{\frac{\alpha}{2}} \times \frac{s_x}{\sqrt{n}}$$

$$CI = 93.87 \pm 1.812 \times \frac{9.5}{\sqrt{11}}$$

$$CI = (88.68, 99.06)$$