Quiz 4

You are welcome to use a calculator for this quiz, but realize the incorrect answer with no supporting work will receive no partial credit.

1. In a discussion of the education level of the American workforce, someone says, "The average young person can't even balance a checkbook.". The National Assessment of Educational Progress says that a score of 275 or higher on its quantitative test reflects the skill needed to balance a checkbook. The NAEP random sample of 840 young men had a mean score of $\bar{x} = 272$, a bit below the checkbook-balancing level. Assume NAEP scores have a Normal distribution with $\sigma = 60$.

   (a) [1] Give a 95% confidence interval for the average quantitative score of young men.

   (b) [2] Explain what it means to be 95% confident that the average quantitative score is in the interval you gave as an answer above. (Explain what a 95% confidence interval is.)

Complete the following steps to decide if the results reported on the previous page are good evidence that the average young man can't balance his checkbook.

(c) [1] Explain carefully what μ is.

(d) [2] State the null and alternative hypotheses you will use.

(e) [1] Calculate the P-value.

(f) [2] What is the P-value measuring in this case? (Explain what the P-value is.)

(g) [1] Is there good evidence to suggest that the average young man can't balance his checkbook?