

**Math 263**  
**Quiz 9**

Name \_\_\_\_\_

A confidence interval for the mean of a population is computed from a sample. In each of the following cases, how does the *length* of the confidence interval change, assuming other quantities remain constant?

- (a) If the sample size increases, the length of the confidence interval (circle one answer) and give reason)
- Increase
  - Decreases
  - Remains same
  - Can't tell without further information

REASON

- (b) If the sample mean increases, then the length of the confidence level (circle one answer and give reason)
- Increases
  - Decreases
  - Remains same
  - Can't tell without further information

REASON

- (c) If the population standard deviation doubles, then the length of the confidence interval (circle one answer)
- Doubles
  - Quadruples
  - Halves
  - Is divided by 4
  - Can't tell without further information

- (d) If the sample size quadruples, then the length of the confidence interval (circle one answer)
- Doubles
  - Quadruples
  - Halves
  - Is divided by 4
  - Can't tell without further information

- (e) If the confidence level decreases (for example, say 95% to 90%), then the length of the confidence interval (circle one answer)
- Increases
  - Decreases
  - Remains same
  - Can't tell without further information