

Ch 8: Section 8.3

Question 1

$$t = 1.771$$

Question 2

$$t = -2.779$$

Question 3

$$a) t = -1.341$$

$$(b) t = 2.056$$

Question 4

$$(a) \bar{x} = 26.689$$

(b) Confidence Interval

$$= (24.532, 28.846)$$

(c)

$$E = 2.157$$

Question 5

$$n = 16$$

$$\bar{x} = 29.65$$

$$s = 3$$

$$t_{\alpha/2} = 2.947$$

$$= \bar{x} \pm t_{\alpha/2} \left(\frac{s}{\sqrt{n}} \right)$$

$$= 29.65 \pm 2.947 \left(\frac{3}{4} \right)$$

$$= 27.44 \leq \mu \leq 31.86$$

Question 6

$$\bar{x} = 20$$

$$s = 3.5$$

$$n = 37$$

$$t_{\alpha/2} = 1.688$$

Confidence Interval

$$(a) = 19.03 \text{ to } 20.97$$

(b) • Increasing the sample size
• Lowering the confidence level

Question 7

$$4.88 \text{ to } 11.57$$

Question 8

$$a) \bar{x} = 52.15$$

$$(b) 47.02 \text{ to } 57.27$$

Question 9

$$n = 25$$

$$\bar{x} = 919$$

$$s = 70$$

$$CL = 90\%$$

$$= 879.84 \text{ to } 958.16$$

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