Questions 19 and 20 on the review questions for the mid-term.

#19. Another way of getting this result:

**Question 19: Determining the Standard Error**

Step 1: \[ \frac{\text{Error} \sim S.S.}{n-k-1} = \frac{3.529}{3} = 1.176 \]

Step 2: \[ \sum X^2 - \left( \sum X \right)^2 / n = 439 - 405 = 34 \]

\[ SE_b = \sqrt{\frac{1.176}{34}} = \sqrt{0.0346} = 0.186 \]

\[ t_3 = 1.1176/0.186 = 6.0086 \]

The CV is 3.182 – reject at the .05 level.

**Question 20:**

The standard error for the b coefficient:

Step 1: \[ \frac{\text{Error} \sim S.S.}{n-k-1} = \frac{25}{3} = 8.33 \]

Step 2: \[ \sum X^2 - \left( \sum X \right)^2 / n = 84 - 80 = 4 \]

\[ SE_b = \sqrt{\frac{8.33}{4}} = \sqrt{2.0825} = 1.443 \]

\[ t_3 = -0.5/1.443 = -0.346 \]

Fail to reject at the .05 level of significance.