

HW #4 SOLUTIONS

3.9. The independence assumption of the residuals is violated.

3.14. a. $H_0: E\{Y\} = \beta_0 + \beta_1 X$, $H_a: E\{Y\} \neq \beta_0 + \beta_1 X$. $SSPE = 128.750$,
 $SSLF = 17.675$, $F^* = (17.675/2) \div (128.750/12) = .824$, $F(.99; 2, 12) = 6.93$. If
 $F^* \leq 6.93$ conclude H_0 , otherwise H_a . Conclude H_0 .

4.5. a. $B = t(.975; 14) = 2.145$, $b_0 = 168.6000$, $s\{b_0\} = 2.6570$, $b_1 = 2.0344$, $s\{b_1\} =$
.0904

$$168.6000 \pm 2.145(2.6570)$$

$$162.901 \leq \beta_0 \leq 174.299$$

$$2.0344 \pm 2.145(.0904)$$

$$1.840 \leq \beta_1 \leq 2.228$$

b. Negatively, no