11. VIF from x_1

$R_1^2 = \frac{940}{980} = 0.96$

$VIF = \frac{1}{1-0.96} = 25$

12. $\hat{y} = 30{,}000 + 3{,}500(10)$

$= 65{,}000$

$\hat{\varepsilon}^* = \frac{20{,}000}{4{,}000} = 5 > 3$

$y - \hat{y} = 85{,}000 - 65{,}000 = 20{,}000$ OUTLIER !!

13. $F = \frac{6{,}700^2}{5{,}800^2} = 1.33$

14. $t = \frac{(\bar{x}_1 - \bar{x}_2) - 0}{\sqrt{6{,}700^2/131 + 5{,}800^2/145}} = \frac{-3600}{758.07} = -4.75$

15. $H_0: \beta_L = \beta_M = \beta_{UM} = \beta_U$

H_a: At least one β_i different