

STA 102 Spring 2002
Chapter 17 Solutions to Suggested Even Problems

2,4 not shown

6.

- a) Scatter plot not shown.
- b) Based on the scatter plot there does not seem to be a linear relationship between time to angina and the duration of the attack.
- c) correlation coefficient $r^2 = -0.0737$.
- d) There might be a slight tendency for the duration of angina to decrease as time to angina increases; however, r is very close to 0.
- e) $t = -0.42$; For a t with 33 df, a p -value > 0.10 implies we cannot reject the null hypothesis that population correlation, ρ , is 0.
- f) Spearman's rank correlation, $r_s = 0.0758$.
- g) $H_0: \rho = 0$; $t = 0.44$; since p -value > 0.10 we fail to reject H_0 .

8.

- a) Scatter plot not shown.
- b) $r = -0.8570$; because the correlation is negative, it suggests that as water fluoride content increases, the number of carries decreases.
- c) $t = -7.25$; for a t with 19 df, p -value < 0.001 , therefore we reject the null and conclude that ρ is not equal to 0; it is less than 0.
- d) Because the relationship between water fluoride content and the number of carries may change outside the range of the observed data, we cannot draw any conclusions about what will happen in this case.