

Ch. 3 Review Answers

1. d 2. c 3. e 4. a 5. b 6. b 7. b
8. c 9. b 10. d 11. c 12. a 13. c 14. a
15. e 16. a 17. b 18. a 19. b

20. a. The data of this scatterplot has a definite curved shape. If we try to fit a linear model to it the equation of the LSR is $\hat{y} = 375.27 - 37.98x$

b. The slope says that for each increase of 1 hour the number of students who have not heard the rumor will decrease by 37.98 (38 students). The y-intercepts that before the rumor starts (time zero) 375.27 students have not heard the rumor. This does not make sense.

c. $r = -.76$ fairly strong negative linear relationship between number of hours and the number of students that have not heard the rumor

d. 58% of the variability in the number of students who have not heard the rumor can be explained by the linear association with the number of hours

e. 249.936 or approximately 250 students

21. a. guessed number = $28.53 + 2.169$ actual ($\hat{y} = 28.52 + 2.169x$)

b. The residual plot does not show a pattern so a linear model is an appropriate model. The residual plot also show that as the actual number of gumballs in a container increases, the LSR is a less accurate predictor due to the increasing residuals.

c. 810

22. a. The upper right point in both plots

b. The correlation coefficient would get stronger, moving closer to -1.

c. The slope would decrease and the y-intercept would increase.

23. The preparation level of college students could be a lurking variable. More students are taking AP classes today than 10 – 20 years ago.