

PRACTICE EXAM 3 ANSWER KEY

1. C
2. E
3. D
4. C
5. A
6. A
7. A
8. C
9. C
10. C
11. B
12. D
- 13.

(a) $y = .688 + .96345 x$

(b) $.96345 \pm 2.2021(.08228) = (.7972, 1.1297)$

(c) I am 95% confident that for each additional foot of length, that the shark's jaw length increases by between .8 inches and 1.13 inches.

(d) I am 95% confident that the mean jaw width for 17 foot sharks is between 16.6 inches and 17.5 inches.

(e) 76.6% of the variability of sharks' jaw width is explained by the linear relationship with shark length.

14.

(a)

i. $H_0: \beta_1 = \beta_2 = 0$

$H_a: \beta_i$ is not equal to 0 for some i

ii. $F=24.9$

iii. $F(2,57)$

iv. 0.000

v. The evidence suggests that there is a linear relationship between the dormant period after an eruption and at least one of duration of the eruption or before dormant duration.

(b)

i. $H_0: \beta_1 = 0$

$H_a: \beta_1$ is not equal to 0

ii. $t(57)$

iii. p-value $> .25$

iv. Fail to reject H_0

v. The evidence fails to suggest that there is a linear relationship between eruption duration and the dormant period after an eruption.

(c) i. x_2

(d) Use model 3 since the predictor in this model is significant; $R^2=46.5\%$ is not much less than the $R^2=46.6\%$ for Model 1 which has two predictors; and $R_{adj}^2=45.6$ is largest of all the three models.