8.2

a. not linear as the residuals keep increasing.

b. It works as it is consistent

8.4  
a. A strong relationship as the data is together but shows NO signs of linearity

b. A strong relationship as the data is together but shows NO signs of linearity

c. A strong relationship as the data is together but shows signs of linearity

d. A weak relationship as the data is NOT together but shows signs of linearity

e. A weak relationship as the data is NOT together but shows NO signs of linearity

f. A moderate relationship as it is relatively together and shows signs of linearity

8.6

a. there is clear linear relationship between the two

b. there is not a clear relationship between the two

c. The correlation between ages is clearly stronger as the data is more compact and shows direction

d. no, the units do not affect as they will be all be proportional as the conversion would effect both dimensions.

8.22

a. there exists a strong positive relationship between the two

b. Explanatory is the calories, and the response is the carbs

c. because there exists a linear relationship between the two

d. heteroscedasticity  is seen since residuals do not have constant variance. So, the data does not meet the conditions.

8.26

a. y = -.357 + 4.034 x

b. when the body weight is zero then the heart weight would be -.357 which wouldn’t make sense so this line would realistically start at y = 0 and find the x intercept.

c. when the body weight increases by 1 the heart weight increases by 4.034

d. R^2 is 64.66% which means that there is 64.66% variation in 7.

E the sqrt of R^2 is .8041

8.28

a. Since there is one outlier and the model is unreasonably to the left, I would say this is an influential point as it.

b. As the outlier is close to the model, I would say this isn’t too influential only partly.

c. As this outlier is perpendicular to the line, I would say this isn’t influencing the model much.

8.32

a. There is a strong relationship between cans of beer and BAC

b. y = -.0127 + .0180x

c. H0 = b1 = 0

H1 = b1>0

P value = 0

Reject the null hypothesis

d. .89^2 is .7921 which means 79% of the variation is explained

e. I do not believe so as it was a voluntary sample and would not be a represented as the whole population.