Chapter covered: Chapter 12
Show your work to receive full credit.

Textbook problems

Problem 1: Exercise 12.1, "Car mileage and weight", Page 575.

Problem 2: Exercise 12.11, "t-score?", Page 583.

Problem 3: Exercise 12.15, "Strength through leg press?", Page 583.

Problem 4: Exercise 12.27, "Body Fat", Page 593.

Problem 5: Exercise 12.28, "Verbal and math SAT", Page 593.

R Problem

Problem 1: This problem uses data from "STAT3011_HW10_R_problem_data.txt". You can use following command to read the data:

```
data = read.table("STAT3011_HW10_R_problem_data.txt",header = T)
```

After you read data into R, you will find it has two variables, X and Y. We use X as explanatory variable, and Y as response variable.

(a) Draw a scatter plot of the data
(b) Calculate correlation between X and Y.
(c) Use *lm* function in R to fit the least square line.
(d) Report the fitted intercept and slope with their standard errors.
(e) Add the least square line in your plot got in (a).