Practice – Part 1

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers under the Solutions tab in Moodle.

1. The table shows the change in outside air pressure as an airplane rises after takeoff.

Altitude (km)	Air Pressure (kPa)
0	101
1	81
2	74
3	63
4	55
5	43

   a. Identify the dependent variable and the independent variable.

   b. Draw a scatterplot for the table of values.

   c. Does the scatterplot show positive correlation, negative correlation, or no correlation?

   d. What trend is displayed on the scatterplot?

   e. Draw the line of best fit.

   f. What is the air pressure at an altitude of $2.5 \, \text{km}$?

   g. At what altitude will the air pressure be $30 \, \text{kPa}$?

2.   Justine is an automotive technician in Red Deer. The table of values shows the fuel
     consumption for new vehicles of different masses.

Mass (tonnes)	Fuel Consumption (L/100 km)
0.8	3.8
1.1	4.2
1.2	6.0
1.3	5.1
1.4	6.2
1.0	4.8
1.6	8
1.5	7.0

a.   Identify the dependent variable and the independent variable.

b.   Draw a scatterplot for the table of values.

c.   Does the scatterplot show positive correlation, negative correlation, or no correlation?

d.   What trend is displayed on the scatterplot?

e.   Draw the line of best fit.

f.   What is the mass of a vehicle that has a fuel consumption of $7.5 \, \text{L}/100 \, \text{km}$?

g.   What is the fuel consumption of a vehicle with a mass of $0.6 \, \text{t}$?