

# Science 10

## GRAPHING POST TEST

KEY

Larry wanted to compare the actual fuel economy of his brand new Toyota Hybrid Highlander during a trip from Prince George to Vancouver. He recorded the amount of fuel used by the vehicle at each of the main cities he passed through. The data he collected follows.

| To             | Distance (km) | Fuel Used (L) |
|----------------|---------------|---------------|
| Quesnel        | 114           | 9.6           |
| Williams Lake  | 238           | 19.7          |
| 100 Mile House | 328           | 27.0          |
| Cache Creek    | 441           | 36.2          |
| Hope           | 635           | 52.1          |
| Chilliwack     | 686           | 56.3          |
| Vancouver      | 786           | 64.5          |

Graph the above data and answer the following questions. Remember to place the dependant and independent variables on the correct axis, label the axis correctly, use the correct scale (at least  $\frac{1}{2}$  of the graph in both directions) with the correct units and supply the correct and complete title. Plot each set of data separately on the same graph.

1. Which variable is the independent variable?
2. Which variable is the dependent variable?
3. When the distance is 0 km, how much fuel has been used?
4. Calculate the slope of the line from the graph.

distance (km)

Fuel (L)

0L

$$\frac{64.5L}{786 \text{ km}} = \boxed{0.082 L/km}$$

5. Create a formula to calculate the amount of fuel used.

$$y = 0.082x$$

Use the formula from Question 5 to answer Questions 6 and 7.

6. What would be the distance traveled if 25 L of fuel was consumed?

$$25 \text{ L} = 0.082x$$

$$x = 304.88 \text{ km}$$

7. How much fuel would be used if 600 km were traveled?

$$y = 0.082x$$

$$y = 0.082(600)$$

$$y = 49.2 \text{ L}$$

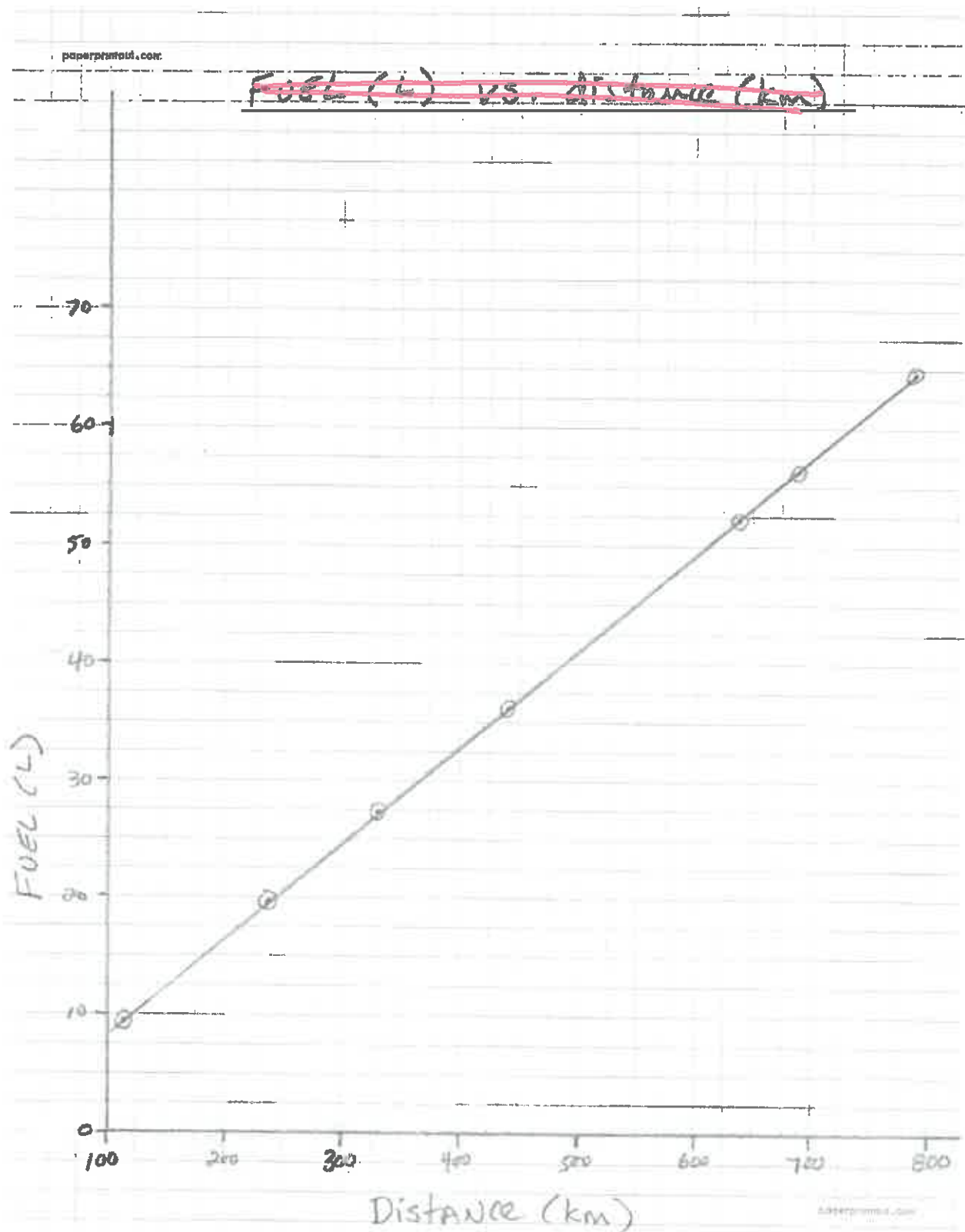


Figure 1. Fuel (L) vs distance (km)  
of a Toyota hybrid highlander