8.2 – Solving Problems with Rates

A gas tank of Mario’s new car has a capacity of 55L. The owner’s manual claims that he should get 7.6L/100km on the highway. He set his trip odometer to 0 Km and filled up with gas. Each time he stopped to fill up the tank, he recorded the distance he had driven and the amount of gas purchased.

<table>
<thead>
<tr>
<th>Fill-up</th>
<th>Total Distance Drive (km)</th>
<th>Quantity of Gas Purchased (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>645</td>
<td>48.0</td>
</tr>
<tr>
<td>2</td>
<td>1037</td>
<td>32.1</td>
</tr>
</tbody>
</table>

Which leg of his trip was his vehicle more efficient?
Trust me … this will happen to you:

(Insert your name here 😊) wants to defrost a frozen vegan roast in the microwave. The roast has a mass of 2.8 kg. A website claims it takes 21 minutes to defrost 3 lbs of roast. (1 kg = 2.2 lbs)

How long, to the nearest minute, should you set the timer on defrost for?

Bob burns 620 calories in a cardio kick boxing class lasting 2 hours and 120 calories in a body sculpt class lasting 30 minutes. If he does cardio for 3 hours, how much longer would he have to do the body sculpt to burn the same number of calories?
Currency exchange

Suppose $1 \text{ CAD} = $0.75 \text{ USD}. If a shirt costs $35 \text{ USD}, what’s the CAD price?

If you have $3500 \text{ CAD} that you exchange for 1850 British pounds (£), what is the exchange rate? £1 = ____ \text{ CAD}