Lesson Notes 4-1 **Comparing & Interpreting Rates**

A rate is a comparison of two amounts that are measured in different units. This can be used when shopping across the border and looking for the best deal. A unit rate is a rate in which the numerical value of one term is 1.

Example 1: Natasha can buy a 15 kg turkey in Canada for $45.76. The same size turkey in the United States cost $1.49/lb. There are about 2.2 lb in 1 kg. Where should Natasha buy the turkey for the best deal? How much will she save?

Can $45.76 US $\frac{\$1.49}{1\text{ lb}} \times \frac{2.2\text{ lb}}{1\text{ kg}} = \frac{\$3.278}{\text{kg}} \times 15\text{ kg} = \$49.17$

cheaper in Canada, $49.17 - 45.76 = 3.41$

Example 2: Describe a scenario that could be represented by this graph. Compare the rates shown, and discuss why the rates may have changed.

Example 3: The gas tank of Mario's new car has a capacity of 55 L. Before Mario's trip, he set his trip meter to 0 km so he could keep track of the total distance he drove. He started with the gas tank full. Each time he stopped to fill up the tank, he recorded the distance he had driven and the amount of gas he purchased. On which leg of Mario's trip was his fuel efficiency the best?

Fill-up	Total Distance Driven (km)	Quantity of Gas Purchased (L)
1	645	48.0
2	1037 - 645 = 392	32.1

fuel efficiency = $\frac{\text{Litres}}{\text{Driven}} = \frac{48}{645} = 0.074$

$\frac{32.1}{392} = 0.082$ ↑ better