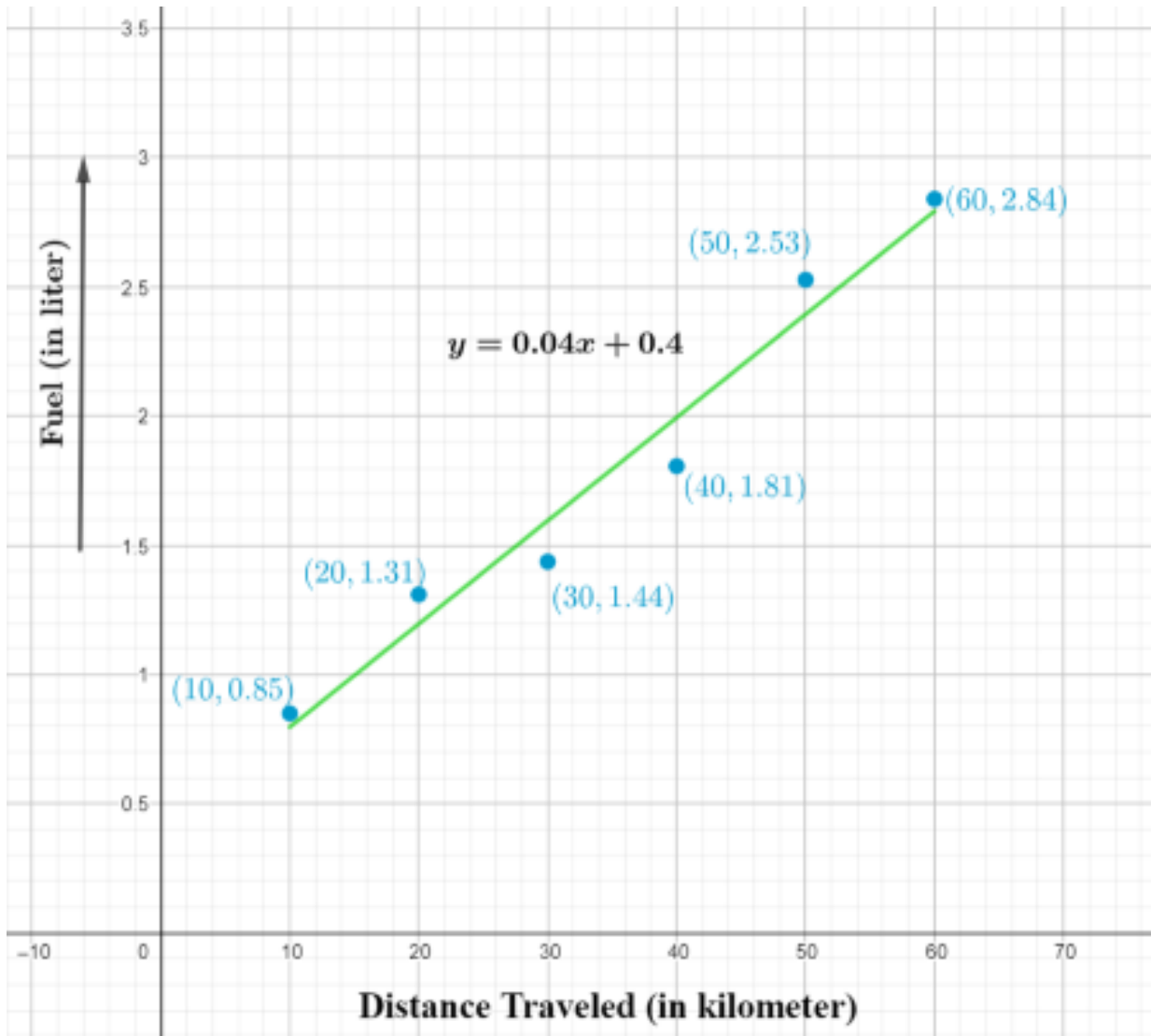


Lesson 7 (Part 2) : Equations in slope-intercept form



Recall that we can interpolate values of y if given a value of x and vice versa.

e.g., determine the number of litres of fuel (the Y-value) used when the car travels 30km (the x-value)

When $x = 30\text{km}$, $y = \underline{\hspace{2cm}}$ L

e.g., when the car has used 2L of fuel, how far has the car travelled?

When $y = 2\text{L}$, $x = \underline{\hspace{2cm}}$ km

We can also make use of the line equation to determine values of y when values of x are given. The equation for the line of the graph is $y = 0.04x + 0.4$

So, let's determine the value of y when $x = 30\text{km}$ using the line equation.

$$Y = 0.04x + 0.4$$

$$Y = 0.04(30) + 0.4$$

$$Y = 1.2 + 0.4$$

$$Y = 1.6$$

What are the units for the answer? The units have to be litres because volume in litres is on the y -axis. So, the answer must be 1.6L

Interpolation is easier, so why do math?! If values go beyond the graph (extrapolation), then interpolation is impossible.

What if the value of $y = 2\text{L}$, what is the distance travelled (x)?

$$Y = 0.04x + 0.4$$

$$(2) = 0.04x + 0.4$$

$$1.6 = 0.04x$$

$$40 = x$$

What are the units for the answer? The units have to be kilometers because distance in kilometers is on the x axis. So, the answer must be 40km.