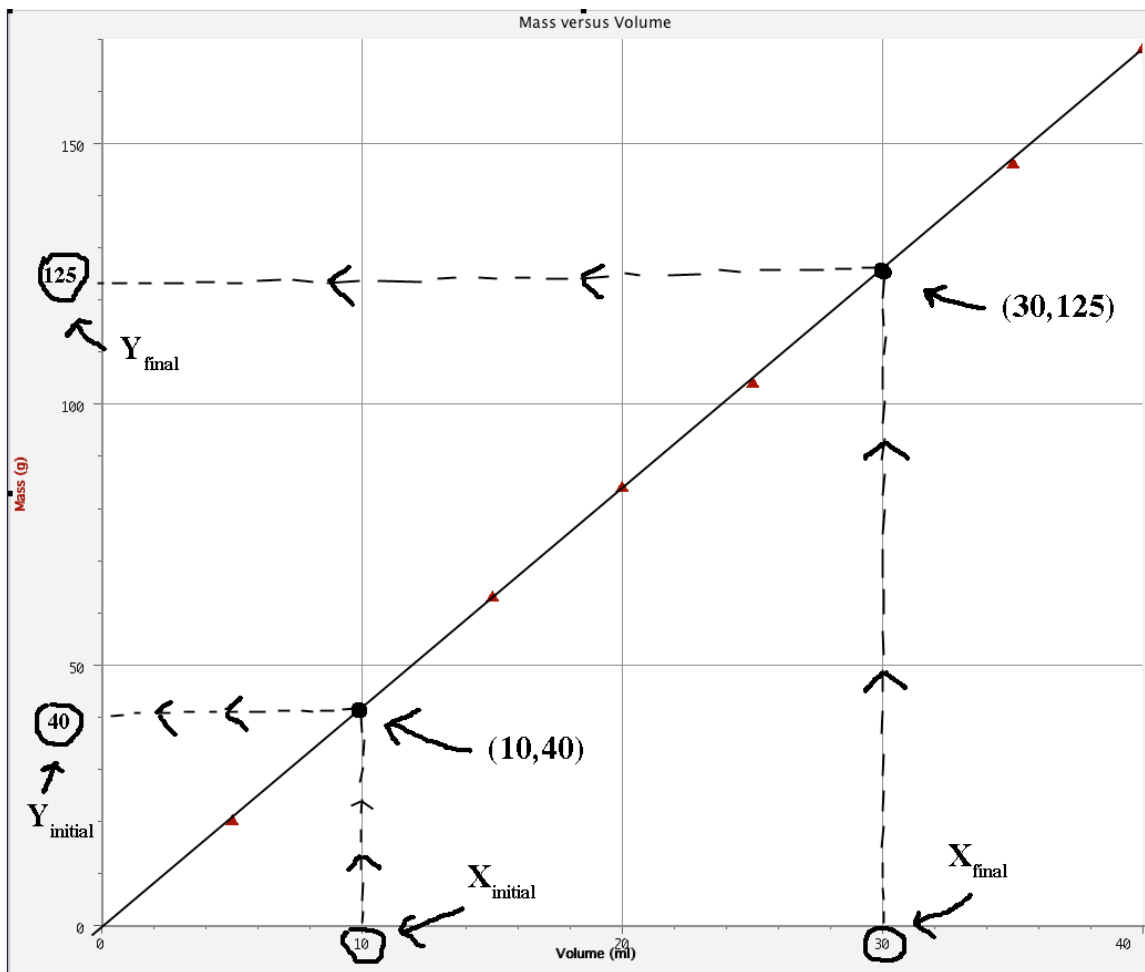


How To Calculate the Slope of a Line



Steps

1. Choose two points on the line (**not** your data points!).

a. Pick a whole number on the x-axis, this will be your *x-value* of your data point.

Make a dotted line up to the **Line of Best Fit**.

Place a dot on the **Line of Best Fit** (this is your data point).

b. Make a dotted line from your data point, left, towards the y-axis. This is the y-value for your data point.

c. Identify the x and y values and write the coordinates next the data point.

e.g. x value = 10 ml

y value = 40 g

(10,40)

2. Repeat 1a->c using a point far away from the first point.

e.g. x value = 30 ml

y value = 125 g

(30,125)

3. Find the slope. Show all your work as shown below.

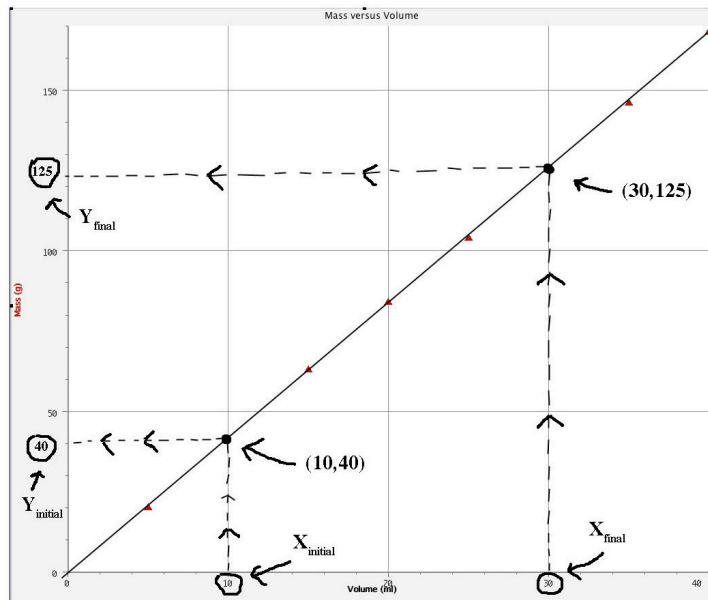
$$\text{Slope} = \frac{\Delta Y}{\Delta X} = \frac{y_f - y_i}{x_f - x_i} = \frac{125 \text{ g} - 40 \text{ g}}{30 \text{ ml} - 10 \text{ ml}} = \frac{85 \text{ g}}{20 \text{ ml}} = 4.25 \text{ g/ml}$$

“F” is an abbreviation for “final” and means further from the zero on the x axis.

“I” is an abbreviation for “initial” means closer to the zero on the x axis.

4. All numbers **must** have units! No naked numbers!

5. Do this work directly on the printout of your graph. Use pencil (in case you make mistakes and have to erase). Do the calculation exactly as shown in the area below the graph.



* Work on graph goes on the graph, as shown above. ↗

* Slope calculation goes on the same paper, below the graph, as shown here. ↘

$$\text{Slope} = \frac{\Delta Y}{\Delta X} = \frac{y_f - y_i}{x_f - x_i} = \frac{125 \text{ g} - 40 \text{ g}}{30 \text{ ml} - 10 \text{ ml}} = \frac{85 \text{ g}}{20 \text{ ml}} = 4.25 \text{ g/ml}$$