

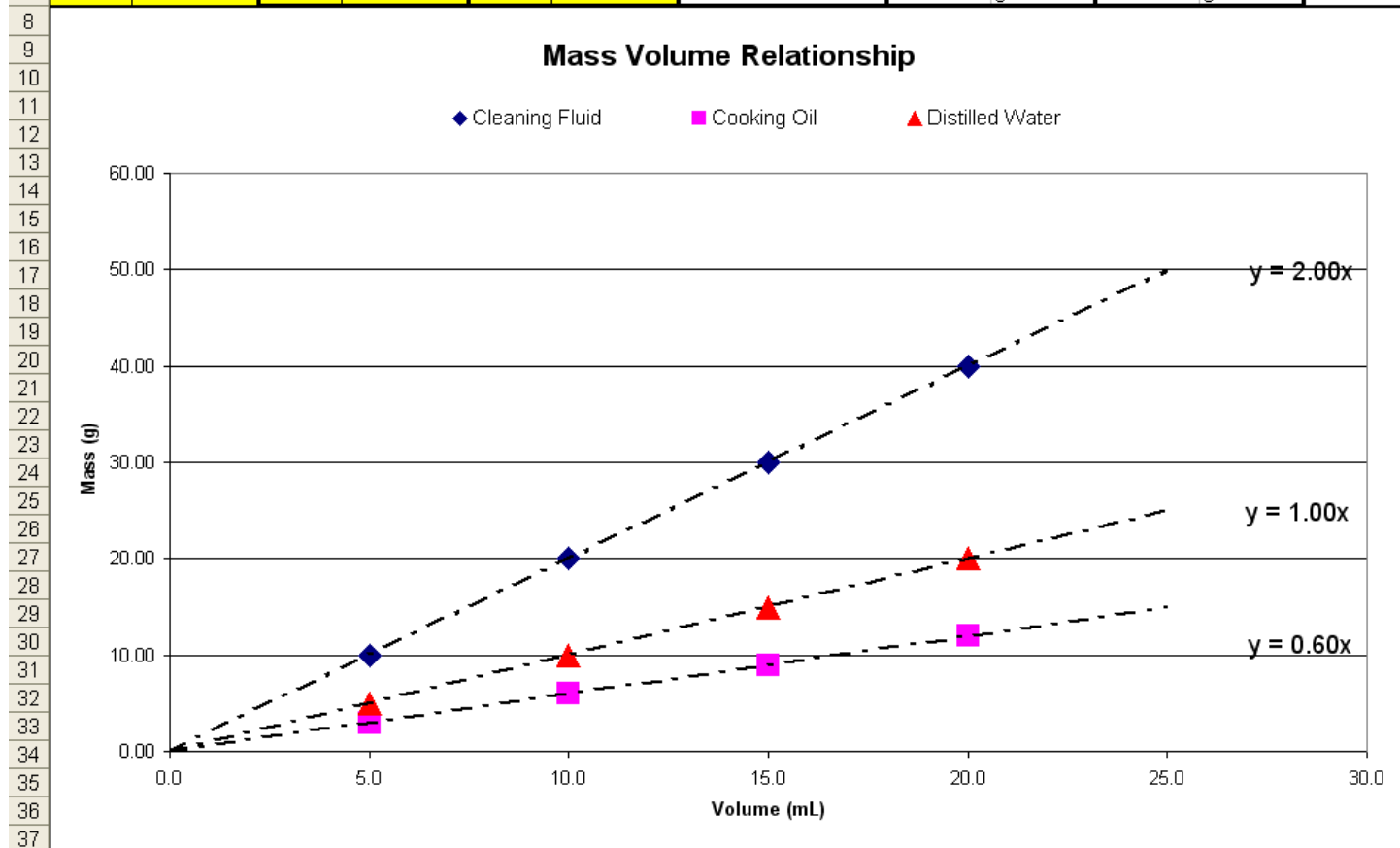
## The Density of Solutions

### Calculations using Microsoft Excel

Use the Microsoft Excel workbook called ***Chem 51 – The Density of Solutions.xls*** for this section.

Enter your data in the highlighted yellow boxes as shown below.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	<b>Cleaning Fluid</b>		<b>Cooking Oil</b>		<b>Distilled Water</b>								
2	Volume	Mass	Volume	Mass	Volume	Mass							
3	mL	g	mL	g	mL	g							
4	5.0	10.00	5.0	3.00	5.0	5.00	<b>Solution</b>	<b>Slope of Line</b>	<b>Average Density</b>				
5	10.0	20.00	10.0	6.00	10.0	10.00	Cleaning Fluid	2.00 g/ml	2.00 g/ml				
6	15.0	30.00	15.0	9.00	15.0	15.00	Cooking Oil	0.60 g/ml	0.60 g/ml				
7	20.0	40.00	20.0	12.00	20.0	20.00	Distilled Water	1.00 g/ml	1.00 g/ml				



Print the worksheet and attach it to your datasheets.

**NOTE:** The calculations performed by Microsoft Excel uses the function called SLOPE. SLOPE returns the slope of the linear regression line through data points of known\_y's and known\_x's. The slope is the vertical distance divided by the horizontal distance between any two points on the line, which is the rate of change along the regression line.

**NOTE:** The calculations performed by Microsoft Excel uses the function called AVERAGE to determine the average density of the solutions. It is calculated by dividing the mass of the solution by the volume of the solution for each of the four trials of each solution to determine the density. The densities for each solution are then averaged (added together and divided by four.)

