**Graphing Density Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_**

1. Graph the following volume and mass data on an unknown liquid (liquid A) using a scatter plot. Draw in the best fit line through the data, intercepting the y-axes.

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| Volume (mL) | 17.5 | 33.7 | 52.1 | 71.1 | 86.4 |
| Mass (g) | 52.73 | 74.60 | 99.43 | 116.72 | 145.78 |

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**Mini Checklist**: \_\_\_Title \_\_\_X-axis label/unit \_\_\_Y-axis label/unit \_\_\_Accurate points \_\_\_Neat \_\_\_Best fit line\_\_\_Legend/Key

1. Use the information from the graph to determine an equation for the best-fit line. Hint: use the slope-intercept form. You will need to determine the slope and the y-intercept and plug them into the formula y = mx + b.
2. Using your best-fit line, what is the mass of the empty cylinder? What is the density (hint: don’t forget units)?

Mass of empty cylinder: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Density of unknown fluid: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Circle** the data point in the graph that may have been determined incorrectly.
2. Liquid B is denser than liquid A. Use another color to draw in what its best-fit line would look like if the same cylinder was used to collect the volume/mass data. Identify this line in your Legend/Key.