NAME____________________________

WORKSHOP 5: Graphical Representation of Data Section ____________

Answer the following questions by plotting and interpreting the data respectively.

A. Reading a Graph

From the figure at the left, read values for the following:

1. The vapor pressure of water at 70 °C. ________________

2. The temperature at which diethyl ether has a vapor pressure of 600 torr. ________________

3. The temperature at which ethyl chloride has the same pressure ethanol has at 80 °C. ________________

B. Plotting Graphs

1. Plot the following pressure-temperature data for a gas on the graph. Draw the best possible straight line through the data.

   Temperature, °C: 0  20  40  60  80
   Pressure, torr: 550 605 665 720 775

2. Solve for the slope of the graph above. Slope is defined as rise/run (?y/?x).

   Slope = _______________ (include units)
3. (a) Study the data given below; (b) determine suitable scales for pressure and for volume and mark these scales on the graph; (c) plot the eight points on the graph; and (d) draw the best possible CURVE through these points.

Pressure-Volume data for a gas

<table>
<thead>
<tr>
<th>Volume, mL</th>
<th>107</th>
<th>76.4</th>
<th>55.7</th>
<th>45.6</th>
<th>35.2</th>
<th>29.7</th>
<th>24.3</th>
<th>20.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure, torr</td>
<td>25</td>
<td>35</td>
<td>48</td>
<td>60</td>
<td>76</td>
<td>90</td>
<td>110</td>
<td>133</td>
</tr>
</tbody>
</table>

Read from your graph:

(a) The pressure at 100 mL _____________________

(b) The volume at 70 torr _____________________