Please show all work for partial credit
All problems worth 12 points

1. Do the following calculations and express the answer with the correct significant figures:
   
   \[ 4050 \times 0.0012 = \] \__________
   
   \[ 0.007 + 0.045 = \] \__________
   
   \[ \frac{(3.03 \times 10^3 + 4.03 \times 10^4)}{0.005301} = \] \__________

2. Perform the following unit conversions
   908. oz to kg
   
   59 pmoles to Gmoles
   
   45 gallons/hour to mls/second

3. A. Give the name of the following compounds
   
   NaBr \__________
   
   SnF\(_4\) \__________
   
   CuSO\(_3\) \__________
   
   B\(_2\)O\(_3\) \__________
   
   HNO\(_3\) \__________
3.B. Write the formula for the following compounds

Lithium oxide __________
Zinc chloride __________
Manganese(IV) oxide __________
Sulfur hexafluoride __________
Hydrobromic Acid __________

4. Fill in the following table:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mass #</th>
<th>Atomic #</th>
<th># protons</th>
<th># neutrons</th>
<th># electrons</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>51</td>
<td>23</td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Ca$^{2+}$</td>
<td>40</td>
<td></td>
<td></td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. I have discovered a new element that I will call DrZesium (Dz). It contains three isotopes $^{220}_{125}$Dz, $^{222}_{125}$Dz, and $^{225}_{125}$Dz

The natural abundance of these isotopes is 20%, 30% and 50% respectively. What is the average atomic mass of this element?
6. I have a sample of calcium nitrite that contains $2 \times 10^{23}$ atoms of calcium. How many grams does this sample weigh?

7. What is the percent composition of each of the elements in Magnesium Nitrate?

8. A compound is 36.86% nitrogen and 63.14% oxygen. What is the molecular formula for this compound, and what is its name?