Assignment A2
Airplane Systems

Answer the questions below regarding the topics you just learned about.

1. Draw and label the following parts in the cylinder:
   a. Piston
   b. Intake Valve
   c. Exhaust Valve
   d. Spark Plug

2. Name each stroke in proper order, of the four stroke engine cycle.
   a. 
   b. 
   c. 
   d. 

3. Use the picture for the next three questions.
   a. Which control is used to change engine power?
   b. Which control is used to direct heat into the carburetor?
   c. Which control adjusts the ratio of fuel to air in the carburetor?
4. Use the Surface Analysis chart below for the next two questions.
   a. Consider the blue H over Lake Huron/Canada. What can be said of the wind strength/speed in the thumb of Michigan?
   b. Looking in the state of New York, what is the general wind direction?

5. Use the Winds Aloft (FD) table to answer the next two questions.
   a. What is the Direction & Speed of the DSM 9000 feet winds?
   b. What is the Direction & Speed of the DBQ 3000 feet winds?

<table>
<thead>
<tr>
<th>FT</th>
<th>3000</th>
<th>6000</th>
<th>9000</th>
<th>12000</th>
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<tbody>
<tr>
<td>BRL</td>
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<td>3411-01</td>
<td>3217-03</td>
<td>2922-07</td>
</tr>
<tr>
<td>DBQ</td>
<td>9900</td>
<td>3112-03</td>
<td>3224-05</td>
<td>3127-08</td>
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<tr>
<td>DSM</td>
<td>1606</td>
<td>3114+02</td>
<td>3216-04</td>
<td>2818-07</td>
</tr>
</tbody>
</table>

6. Use your E6b flight computer and divide the following numbers:
   a. \( \frac{70}{3.4} = \)  
   b. \( \frac{9}{0.5} = \)
   c. \( \frac{27.5}{6} = \)
   d. \( \frac{120}{33.5} = \)