3. [11 points] A pilot is flying in an air show. Let $A(t)$ be her altitude, in feet (ft) above the ground, $t$ seconds (sec) after takeoff. Some values of $A(t)$ are shown in the table below, and there is one missing value, denoted by “?”.

<table>
<thead>
<tr>
<th>$t$</th>
<th>5</th>
<th>22</th>
<th>23</th>
<th>60</th>
<th>60.1</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A(t)$</td>
<td>300</td>
<td>1100</td>
<td>1400</td>
<td>400</td>
<td>?</td>
<td>1200</td>
</tr>
</tbody>
</table>

a. [3 points] Use the table to give the best possible estimate of $A'(22)$. Make sure to include the relevant units as part of your answer.

b. [3 points] Suppose that $A'(60) = 550$. Give an approximate value for the missing entry in the table. Make sure to include the relevant units as part of your answer.

c. [5 points] The pilot flies in a different air show a week later. Let $B(t)$ be her altitude, in feet (ft) above the ground, $t$ seconds (sec) after takeoff. A graph of $B(t)$ is shown below.

Let the quantities I-V be defined as follows:

I. The number 0.

II. The pilot’s average velocity, in ft/sec, between $t = 15$ and $t = 50$.

III. The pilot’s instantaneous velocity, in ft/sec, at $t = 55$.

IV. The pilot’s average velocity, in ft/sec, between $t = 50$ and $t = 90$.

V. The pilot’s instantaneous velocity, in ft/sec, at $t = 85$.

List the quantities I-V in increasing order.