**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 "?".

t	5	22	23	60	60.1	70
$A(t)$	300	1100	1400	400	?	1200

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.
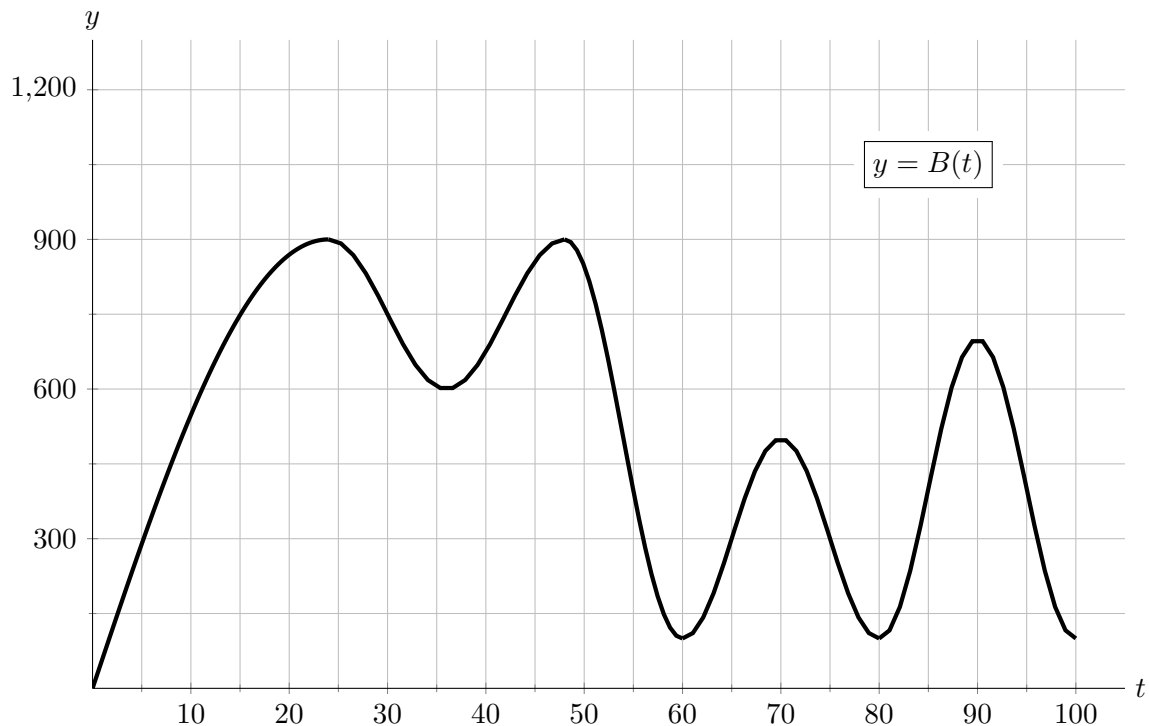
Let the quantities I-V be defined as follows:

   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.