Online Math 153 Calculus I-a

Worksheet: Section 1.3 The Limit of a Function

If an arrow is shot upward on the moon with a velocity of 58 m/s, its height in meters t seconds later is given by $h = 58t - 0.83t^2$. Using your calculator determine the following.

Note: Average Velocity = $\frac{h(t_2) - h(t_1)}{t_2 - t_1}$

Find the average velocity over the given intervals:
a. [1, 2]

b. [1, 1.5]

c. [1, 1.1]

2. Estimate the instantaneous velocity when t = 1 by continuing to decrease the interval over which you calculate the average velocity.

3. Did you guess correctly? The instantaneous velocity is 56.34 m/s when t = 1.