Physics 211   **Problem Set 1**   **Due Friday, 09/06/19**
Last Name: **First Name** _____
Workshop time or section: **TA name or Room #** _____

Please submit your homework on this sheet. If you need more space than is available,
please attach additional sheets of paper.
Show your work or earn no credit for even correct answers!

1.   (a) Your old VW van sputters along at an average speed of 8.0 m/s for 60 s, and then
     catches hold and zips along at an average speed of 20.0 m/s for another 60 s.
     Calculate your average speed for the entire 120 s.

     (b) Suppose the speed of 8.0 m/s was maintained while you traveled 240 m, followed
     by the average speed of 20.0 m/s for another 240 m. Calculate the van's average
     speed for the entire distance.

2. A turtle crawls along a straight line, which we will call the *x*-axis with the positive direction to the right. The equation for the turtle's position as a function of time is $x(t) = 45.0$ cm $+ (2.25$ cm/s$)\, t - (0.0635$ cm/s$^2)\, t^2$. [This is a modified textbook problem.]

(a) Find the turtle's initial velocity, initial position, and initial acceleration.

(b) At what time *t* is the velocity of the turtle zero?

(c) How long after starting does it take the turtle to return to its starting point?