Week 2 Reading Questions

For Tuesday:

**RQ2 in MasteringPhysics**

1. Chap. 2 introduces fundamental and essential quantities to describe (one-dimensional) motion. What are the (mathematical) definitions of: displacement, average velocity, and average acceleration?

2. The slope of a line just tangent to a graph of position vs. time of a moving object is what physical quantity?

3. What is the definition of instantaneous acceleration in terms of a limit, analogous to the definition of instantaneous velocity of eq. 2.3?

For Wednesday:

4. In fig. 2.22 what is the evidence that the ball is accelerating?

5. Work out for yourself in detail (so that you could do it on your own) the algebraic steps that are used to combine eqs 2.8 and 2.12 to get eq. 2.13. It is important to read actively and work out some details as you read the book. This provides needed practice in working with the equations algebraically and reinforces the important results so that you are more likely to understand results and better know how to combine equations when solving problems.

For Thursday:

6. The area under the $v(t)$ curve between two times, $t_1$ and $t_2$, corresponds to what physically?

7. The area under the $a(t)$ curve between two times, $t_1$ and $t_2$, corresponds to what physically?