Tasks for October 13 and 14

Physics

Your goal today is to continue working on projectile motion – in preparation for the quiz that will be this Friday and the test that will be on Friday the 24th.

Keep in mind that in addition to mastering the concepts and the problem-solving techniques, you may also need to increase the rate at which you can work the problems. The test on the 24th will have three problems similar in complexity to the "level II" homework problems – which means you will need to be able to solve these problems (and others like them) in about 15 minutes or less.

You should have already completed the Lofty Heights Lab Report. Please turn this in to the bin. If you don't have it completed, make sure you turn in something that indicates to me a) why it is late and b) when you expect to have it completed.

Here are your specific tasks for today. Remember that your overall goal is to master the concepts and problem-solving techniques of projectile motion.

1) Complete, and discuss with other students, the homework from last week (p. 44, #36, 41, and 48)
2) Continue, and discuss with other students, the projectile motion problem we looked at in class last week (posted in the notes)
3) Take a look at the following simulations. Each is designed to help you understand a particular aspect of 2D motion. Remember when you use the simulations that your goal is to learn physics, not just to enjoy playing video games in class!
    a. Lunar Lander: this simulation can help you see the acceleration and velocity vectors of an object undergoing projectile motion. Make the launcher move at an upward angle, then shut off the engine. As soon as the engine is off, all the rules of projectile motion will immediately apply until the engine turns on again or the launcher strikes an object.
    b. Ladybug Motion: this simulation can help you understand the difference between position, velocity, and acceleration – and how those quantities interact with each other.
    c. Vector Addition: if you still need some help figuring out how adding vector components together can let you find a resultant vector, practice with this simulation