Part I (due at the beginning of class Friday, October 17)

Make sure you finished finding the derivatives of all the trig functions (page 3 of the Derivatives of Trig Functions handout). Then complete page 1 (the front of the first piece of paper) of the yellow Chain Rule handout you got at the end of class Monday.

Part II: WeBWorK (due Saturday, October 18, by 11 PM)

Click here for your WeBWorK assignment. Complete the DW 18 WeBWorK assignment.

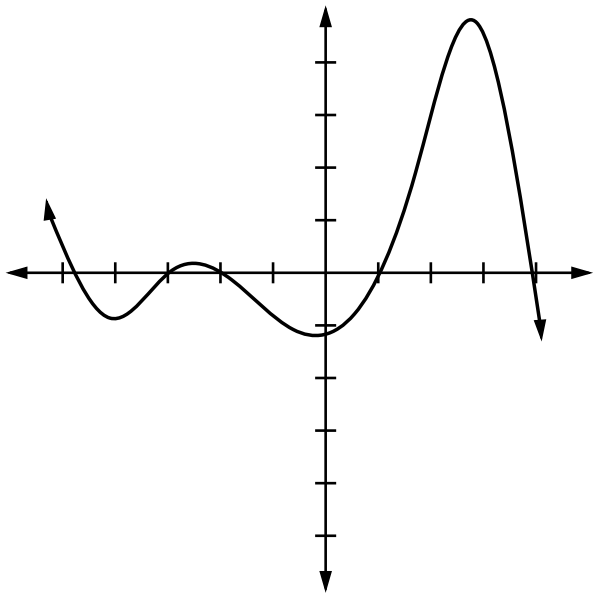
Note on WeBWorK: While it's not due until Saturday at 11, it's a good idea to do it earlier as part of your review for Wednesday's Celebration of Learning.

Part III: Homework Problems (due Wednesday, October 22 at the beginning of class)

1. Avery shoots a small water balloon out of a slingshot straight up at a height of 2 m above ground level. The initial velocity of the water balloon is 24.5 m/s and the height of the balloon at time t seconds is given by
$$h(t) = 2 + 24.5t - 4.9t^2.$$
   (a) What is the velocity of the balloon at 2 seconds?
   (b) What is the velocity of the balloon at 4 seconds?
   (c) When does the balloon reach its maximum height?
   (d) What is the highest the balloon goes?
   (e) When does the balloon hit the ground?
   (f) What is the velocity of the balloon at impact?

2. Cameron drops a ball from the top of a building into a pool of water at ground level. Cameron sees the splash from the ball entering the water 5.6 seconds after dropping the ball. How tall is the building?

3. Given the graph of the function $f(x)$ below, sketch the graph of $f'(x)$ and $f''(x)$ on the same set of axes. Clearly label your graphs, preferably using different colors.



Reminder

We'll have our next big Celebration of Learning on Wednesday, October 15, in class. It will have problems for learning targets L1–D5, possibly also D6 and D7, depending on how Monday goes.