1. Know the definitions of the following terms
   (a) derivative of a function
   (b) differentiable
   (c) second derivative
   (d) What does the second derivative tell us about the function?
   (e) third derivative
   (f) velocity, acceleration, jerk

2. Write answers to the following questions in your notebook. (Mon Oct 7)
   (a) Draw an example of a function with domain [0, 5] which is differentiable everywhere except \( x = 1, 2, 3 \). Make each of these a different type of non-differentiability. Label the type of differentiability.
   (b) Give an example of a function which is continuous but not differentiable or describe why this is impossible.
   (c) Give an example of a function which is differentiable but not continuous or describe why this is impossible.

Homework

(a) WebAssign Problems: See WebAssign HW5

(b) Hand-Written Problems to turn in: 2.7: 4, 20, 42 - for 4 and 42 be sure to explain your reasoning in complete sentences. For 20, show your work. Use limit definition. (Due Wednesday Oct 9)