Part I (due at the beginning of class Monday, October 13)

Finish the blue Higher Derivatives handout you got at the end of class last Wednesday if your group did not finish it in class Friday.

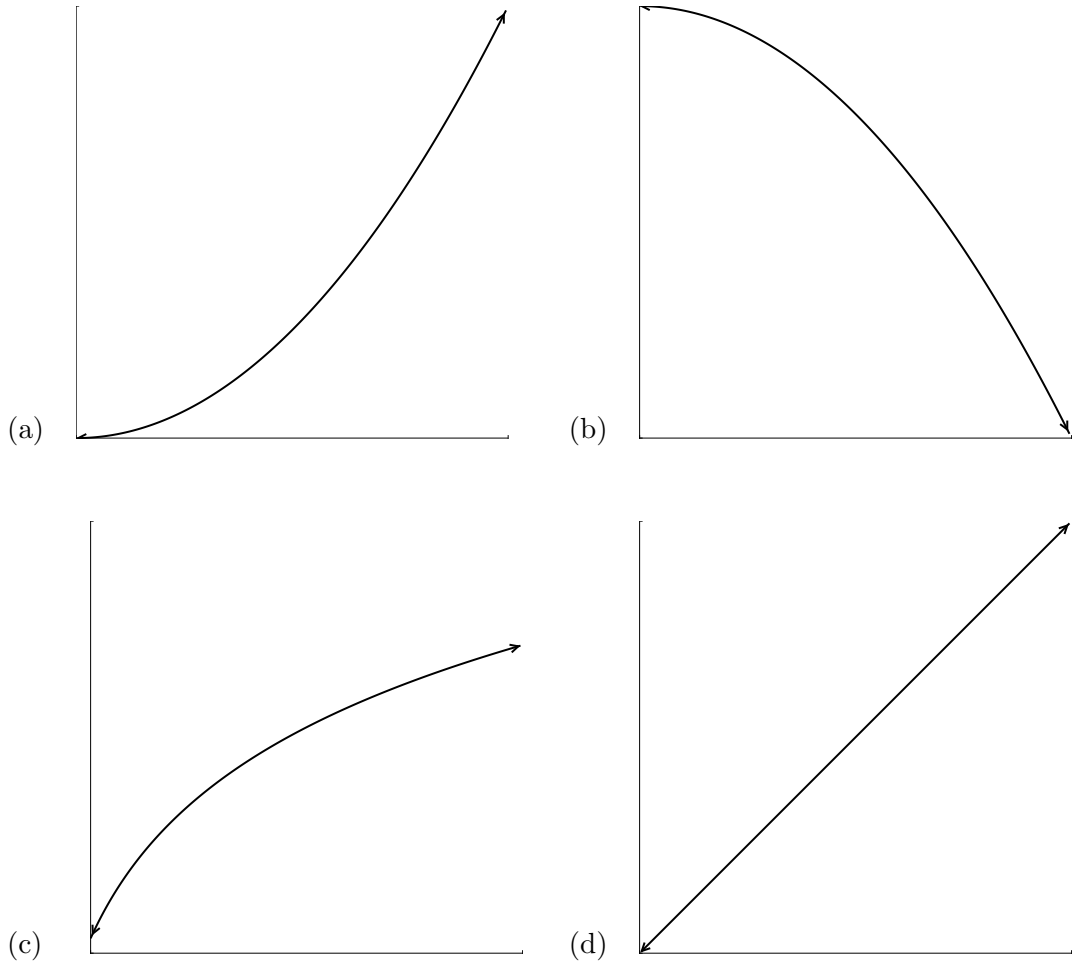
Part II: WeBWorK (due Saturday, October 18, by 11 PM)

Click here for your WeBWorK assignment. Complete the DW 17 WeBWorK assignment.

Note on WeBWorK: While it's not due until next 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. Find the derivative and second derivative of $g(x) = x|x|$. Does $g''(0)$ exist? (Hint: rewrite g as a piecewise defined function and differentiate each piece.)
2. For each of the following graphs, describe a possible scenario in which the given graph is the position function of a moving object/person (feel free to be creative!), where time is the variable on the horizontal axis and position is the variable on the vertical axis. With each answer, include how the features of the graph match the scenario you've described.



Bonus: A parabola has an equation of the form $y = ax^2 + bx + c$. If a parabola passes through $(0, 1)$ and is tangent to the line $y = x - 1$ at the point $(1, 0)$, find an equation for that parabola.

Reminder

We'll have our next big Celebration of Learning on Wednesday, October 22, in class. It will have problems for learning targets L1–D5, possibly also D6 and D7, depending on how Monday goes.