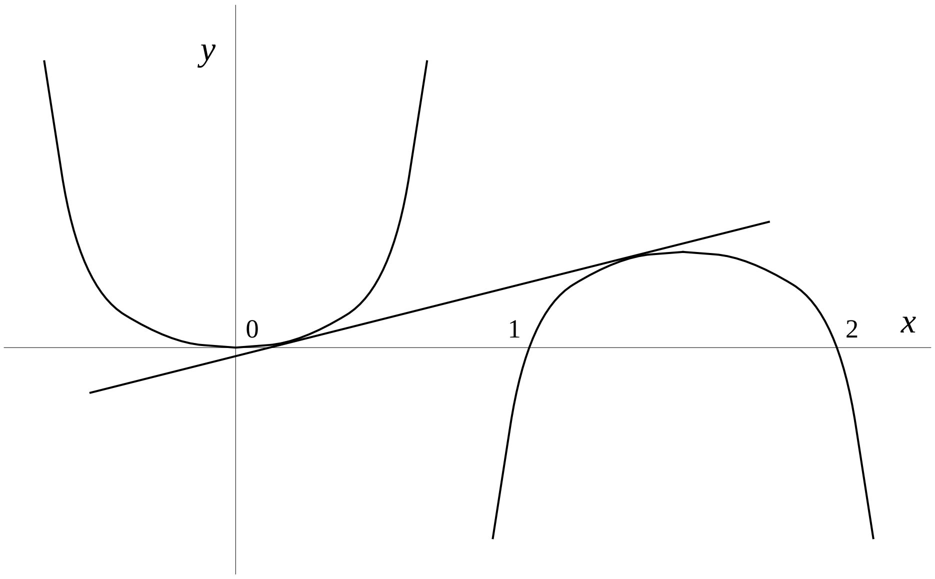
A calculus problem for 640:192:03

Consider the parabola $y = x^2$. Flip it and move it right, to create a parabola opening "down" and intersecting the $x-$axis at $x = 1$ and $x = 2$. An equation for such a parabola is $y = -(x-1)(x-2)$. Look below and you'll see a straight line tangent to both parabolas.



Find an equation for that line. Include *any* other information, including pictures and computations, that you think is useful. In particular, your written solution should be of high-quality, with the explanation of your solution to this problem given in complete sentences. You will be graded not only on mathematical content, but also on presentation! Neatness counts. While I encourage you to discuss the problem with other students and with me, the written work you hand in must be your own.

Please hand in your solution at tomorrow's class.