

MATH 1420 WRITTEN HOMEWORK 2
DUE FRIDAY, MARCH 3

Remember that for all problems you should write up a complete explanation. That is, don't just show me calculations. You also need to explain why the steps you follow are valid.

Problem 1. *Your friend knows all the other rules for derivatives, but they don't know the quotient rule and insist that they will never believe it unless you can explain to them why it's true. Using the other rules for derivatives, give an explanation of why the quotient rule works to help your friend out.*

Problem 2. *An ellipse is given by the equation $4x^2 + 2xy + y^2 = 16$. Determine equations for the tangent lines to the ellipse at all x - and y -intercepts of the ellipse.*