Weekly Assignment 5

1. Product rule
   1. Draw a diagram with an accomplanying explanation to justify that as *h* goes to zero, *f(a+h) = f(a) + h\*f’(a)*
   2. Use the results of part a and the algebraic definition to justify the product rule for
   3. Reciprocal Rule: Use the previous problem and the algebraic definition to find
2. Quotient rule: Use the reciprocal rule and the product rule to find
3. Use the reciprocal or quotient rules for derivatives to verify the following formulas for the derivatives of other trig functions:
   1. If *f(x) = tan(x)* then
   2. If *f(x) = cot(x)* then
   3. If *f(x) = sec(x)* then *f’(x)= sec(x)tan(x)*
   4. If *f(x) = csc(x)* then *f’(x)= -csc(x)cot(x)*
4. Given the following graphs of *f*, draw the graph of *f’*:

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