Reading: Class Text, Ch. 9.

Problems to Hand In:

Problem 1. RJM, Problem 9.12.

Problem 2. RJM Problem 9.18. Read the problem statement, and then prove, using only the definition of $f'(x)$, that the following two identities hold, provided that none of the $f_i(x)$’s are zero.

(a) \[ \frac{(f_1 f_2 \cdots f_n)'}{(f_1 f_2 \cdots f_n)} = \frac{f_1'}{f_1} + \cdots + \frac{f_n'}{f_n}. \]

(b) \[ (f(g(x)))' = f'(g(x))g'(x). \]

Problem 3. RJM Problem 9.52.