Homework Assignment 6.

Given Oct 29, due Nov 9.

1. Here is an alternative proof of Cauchy's Mean Value Theorem:
   Suppose f and g are continuous on $[a,b]$ and differentiable on (a,b), then there exists $c \in (a,b)$ such that
   $$\begin{vmatrix} f(b)-f(a) & f'(c) \\ g(b)-g(a) & g'(c) \end{vmatrix} = 0.$$
   Hint: Apply standard Mean Value Theorem to
   $$F(x) = \begin{vmatrix} f(b)-f(a) & f(x)-f(a) \\ g(b)-g(a) & g(x)-g(a) \end{vmatrix} \qquad \text{on } [a,b].$$

2. Read Page 364, Example 7. Then do Section 6.3: 48-51.

3. Section 6.3: 62, 63, 78, 85-90.

4. Section 6.6: 28, 33, 38, 40, 42, 44, 48, 52, 54, 57, 58(a).