Math 31BH  HW3, due Wednesday Feb 3 at the beginning of class

HW3, #1. Do Exercise 1.7.11(a),(d) only.
HW3, #2. Do Exercise 1.7.12.
HW3, #3. Do Exercise 1.7.21.
HW3, #4. Again considering the determinant as a function of 2 × 2 matrices, show that if $A$ is an invertible 2 × 2 matrix and $H$ is a 2 × 2 matrix, then

$$[D \det(A)] H = \det(A) \text{tr} \left( A^{-1} H \right),$$

where $\text{tr}$ denotes the trace.

HW3, #5. Do Exercise 1.7.22.
HW3, #6. Do Exercise 1.8.10(a).
HW3, Extra credit. Do Exercise 1.8.10(b).