Properties of Determinants Part II

MATH 204: Linear Algebra
Prepare for class October 24, 2018   Name (Print): ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

After rereading Section 3.2, work through the following ideas.

1. On page 173 in the text, the author's define a matrix U. What special properties does U have?

2. State the fact on page 173 about the determinant of A in relation to U.

3. Theorem 3.4 generalizes a result we already knew about 2×2 matrices. State Theorem 3.4 here. (Yes, we discussed this last week!)

4. The comment after Theorem 3.4 highlights the fact that a consequence of Theorem 3.4 is that we now have thirteen items that are logically equivalent for the Invertible Matrix Theorem! Carefully work through Example 3 in the text (page 173), justifying each step with Theorems from this chapter or with the extended Invertible Matrix Theorem. Write each step down carefully. The paragraph before Example 3 should give you guidance.

5. (a) State Theorem 3.5.

   (b) Prove that Theorem 3.5 is true for the 2×2 matrix case.

6. Write down any questions you have on the reading.