MATH 253

Today

1. Review for exam.

Review Material

1. Sections 3.1-4.4.
2. Linear transformations
   (a) Definition
   (b) Determining whether you have one
   (c) Properties
   (d) The matrix of a linear transformation (computing, using, interpreting)
3. Similar/equivalent matrices
4. Block matrix multiplication
5. Change of basis (identity transformation)
6. Finding a matrix inverse (via $[A|I_n]$)
7. Expressing a nonsingular matrix as a product of elementary row matrices
8. Determinants
   (a) Computation (by hand)
   (b) Properties
   (c) Adjoint (and A^{-1})
   (d) Cramer's Rule

Logistics:

1. We can begin 5 minutes early and go 5 minutes late (7:55-9:05).
2. The exam is intended to be a 50-minute exam.
3. There will be one or two (short) proofs. The rest will be computational or conceptual.
4. You may use a calculator or Python, but I may ask you explicitly to perform some computations by hand (e.g., a 3×3 determinant).
5. For Python, you may start with the basic template I've shared. You may also use your Python info sheet.
6. Problems will be on one page. I will provide blank paper for you to work on. Please leave the upper left corner blank (for a staple) and write on only one side of the page.

Next Time

1. Exam!
2. 5.1 on Wednesday.