

### MATH 310: EXAM 3 TOPICS AND PRACTICE PROBLEMS

- Electrical Circuits (section 3.7): # 1, 3, 4, 8, 17
- First-Order Systems and Applications (section 4.1): # 1, 7, 19, 23, 30, 32
- The Method of Elimination (section 4.2): # 3, 7, 9, 11, 17, 23, 24, 27, 30, 31, 39
- Matrices and Linear Systems (section 5.1): # 1, 3, 4, 11, 13, 17, 21, 23, 32
- The Eigenvalue Method for Homogeneous Systems (section 5.2): # 1, 3, 9, 15, 17, 27, 29
- A Gallery of Solution Curves of Linear Systems (section 5.3): categorize the eigenvalues and eigenvectors and sketch the phase portrait for problems from Section 5.2: # 1, 6, 7, 9, 11, 16; then solve problems from Section 5.3: # 18, 19, 20, 21

**Exam 3:** Friday, April 19, in class