Exercises for Math 1600B Linear Algebra I (Winter 2018/2019)

All exercises are taken from the custom textbook. Note that there are differences between the exercises in the custom textbook (based on the 4th edition) and the exercises in the 3rd edition. The list may be adjusted as the term progresses. New questions will be in red, and deleted questions will be struck out.

If we don't cover a section completely, the comments column below will indicate this, but this may also change as the term progresses.

In order to become familiar with the material, you will probably have to solve more exercises than the ones given below. (Recall that the questions in quizzes and exams will *not* simply be these exercises with changed numbers!)

Section	Exercises	Comments
1.1	1, 3, 5, 7, 9, 11, 13, 17, 21, 29, 33, 39, 43, 53, 55	the dot product is defined in Section 1.2
1.2	3, 9, 15, 17, 19, 25, 33, 35, 41, 43, 47, 49, 66	
1.3	1, 3, 5, 7, 9, 11, 13, 15, 19, 21, 23, 27, 29, 31, 33	
cross products	1, 2, 4, 8(c)	know the properties listed in Ex. 5 (but not Ex. 6)
8.1	1, 3, 5, 7, 9, 13, 17, 21	see pages 620-625 in the full edition
2.1	1, 3, 9, 11, 13, 15, 17, 21, 23, 29, 31, 37,43	
2.2	5, 7, 9, 11, 15, 21, 23, 29, 31, 33, 35, 37, 41, 45, 47, 49, 55, 57	
2.3	1, 5, 11, 15, 19, 23, 25, 27, 29, 33, 35, 37	
2.4	15, 17	only network analysis (no electrical networks)
3.1	1, 7, 9, 13, 15, 17, 21, 35, 38(a), 39	no partitioned matrices
3.2	3, 5, 7, 13, 15, 23, 27	
3.3	1, 3, 9, 11, 13, 23, 25, 27, 31, 33, 35, 39, 53, 55, 57, 63	
3.5	3, 7, 11, 15, 19, 23, 25, 29, 31, 37, 39, 41, 45, 49, 51, 55	
3.6	20, 21, 40 (look at 38(a) in Sec. 3.1 if you're stuck)	only rotations, their compositions and inverses
3.7	5, 6, 7, 8, 9	only Markov chains
4.1	5, 7, 11, 13, 21, 23, 33, 37	
4.2	5, 9, 13, 23, 27, 29, 31, 33, 39, 45, 49, 51, 53, 57, 59, 61	without the adjoint
4.3	1, 3, 5, 7, 9, 11, 15, 19, 23, 25	
4.4	1, 3, 7, 9, 13, 15, 19, 21, 25, 39	
5.1	3, 5, 7, 9, 13, 15, 17, 19, 21, 29, 31	only check for rotations in Ex. 29 and 31
5.2	1, 3, 5, 7, 9, 11, 13, 17, 21	
5.3	1, 3, 5, 7, 9, 11, 13	no QR factorization
5.4	3, 5, 9, 13, 21, 23	not the projection form of the spectral theorem