

**MATH 447/MATH 747**  
**Fall 2022**

**Assignment #3**

The assignment is due Tuesday 11 October at 10pm.

Study Appendix A and Sections 3.1 through 3.3.

Solve Chapter 3 Exercises 3, 4(ab), 8, 17, 18, 41, 46, 69, 79.

**MATH 747 students only:**

Solve Chapter 3 Exercise 19.

**Remarks:**

1. Exercise 3 does not specify the code alphabet. Assume that the code is binary, that is, code alphabet is  $GF(2)$ .
2. Exercise 41 is missing a comma at the end of its second line. That is, the following two statements are to be proved:
  - (a)  $C'$  is an  $(n, k-1)$ -code (no matter if  $d$  is even or odd).
  - (b) If  $d$  is odd, then  $d' > d$ .