

## 18.700. Problem Set 6

**Due date:** November 7 (Monday) in lecture or in my office before noon on due date. Late homeworks will be accepted only with a medical note or for some other MIT approved reason. You may work with others, but the final write-up should be entirely your own and based on your own understanding.

Each problem is worth 10 points (for the total homework score, there will be a normalization, so that all psets count equally).

**Problem 1:** 3.1.7. in addition: “Is the converse true? (prove or give a counterexample)”

**Problem 2:** 3.1.10.

**Problem 3:** 3.2.1.(b) and 3.2.2.(b)

**Problem 4:** 3.2.9.

**Problem 5:** 3.2.14.

**Problem 6:** 3.3.4.

**Problem 7:** 3.3.13.

The following problems are recommended for additional practice. They should *not* be turned in with the homework and they will not count towards the homework score. Section 3.1: some examples of linear transformations as in 1, 8, and 9; 3a, 4c, 5, 12, 13 . Section 3.2: 12, 16, 17, 21, 25, 26. Section 3.3: 1c, 2c, 5, 6, 9, 10 (choose some examples), 12, 14.