

## CSci 3501 Assignment 12

Due Tuesday, November 30th at 5pm in my office

**Problem 1 (6 points).** Sipser, exercise 3.9 p. 160 (follow the hint in the problem).

**Problem 2 (4 points).** Sipser, exercise 3.11 p. 161.

**Problem 3 (10 points).** Sipser, exercises 3.15b,e and 3.16b,d p. 161.

**Problem 4 (10 points).** Sipser, exercises 4.3, 4.4, 4.12 p. 183. These problems require methods similar to those used in the decidability proofs in the book. You may use any results proven in the book. Note that regular languages have different properties than context free languages - double check your approaches. Pair work is encouraged.

**Problem 5 (4 points).** Sipser, exercise 4.7 p. 183.