

### 3. Homework

Due **9/29/08** before class

Please refer to the corresponding exercise sections in the textbook (Rosen, 6th edition).

2.1 (page 119)

- (a) (2 points) 8 a,b,c,e
- (b) (2 points) 22 a,b,c,d
- (c) (2 points) 30

2.2 (page 130)

- (a) (2 points) 4 a,b,c,d
- (b) (2 points) 20. (*Hint: In order to prove  $A = B$  one can prove  $A \subseteq B$  and  $B \subseteq A$ . Another approach is to use the set identities in table 1, page 124.*)
- (c) (2 points) 46 a,b (*Although this question has a "\*" , it is actually not hard.*)

2.3 (page 146)

- (a) (1 point) Give the functional notation for the function described in 6d, including domain and range (the codomain should equal the range).
- (b) (4 points) Determine which of the functions in 12 a,b are one-to-one, onto, or both. Prove your answers.
- (c) (4 points) 16 a,b. Prove your answers. (*Note that these functions are different from those in 12.*)
- (d) (2 points) 32