

# MATH/CSE 1019 Discrete Math for Computer Science

## Assignment 3

Released: October 15, 2012

Due: 1 pm, October 23, 2012

### Notes:

1. No late submissions will be graded.
2. Submit your assignment using the dropbox, which is located on the 1<sup>st</sup> floor of LAS.
3. You must do the assignment by yourself
4. Submit this assignment only if you have read and understood the policy on academic honesty on the course web page. If you have questions or concerns, please contact the instructor.

### Questions:

1. (4 points) Let  $A, B$  be sets. Show that  $(A-B) \cup (B-A) = (A \cup B) - (A \cap B)$ .
2. (6 points) Let  $f: S \rightarrow T$ . Assume  $A \subseteq S$  and  $B \subseteq S$ .
  - (1) (4 points) Show that  $f(A \cap B) \subseteq f(A) \cap f(B)$
  - (2) (2 points) Disprove  $f(A \cap B) = f(A) \cap f(B)$  by giving a counter example.
3. (4 points) What is the sum of all integers between 2000 and 3000 which are divisible by 7? Show your steps.