

Math 220 – Homework 7**Due Thursday 3/7 at the beginning of class**

Total points: 160

(Writing portion 120 pts)

PART A

Problems from the textbook:

• Section 4.2	problem	1(a,b,h,f)*	2*	5(a,b,d,e)*	11	15	16(c)	17	18
	points	40	10	40	5	10	5	5	15

PART B1. * [30 points] Let A, B , and C be nonempty sets. Prove or disprove the following statements.

- (a) $A - A = \emptyset$.
- (b) $A \subset A$.
- (c) $A \cup A = A \cap A$ for all sets A .
- (d) If $|A| = |B|$ then $A \times B = B \times A$.
- (e) $A \times B = B \times A$ for all nonempty sets A and B .
- (f) If $\{1\} \in P(A)$, then $1 \in A$ and $\{1\} \notin A$.