

Structures for Semantics — Homework 3

April 2, 2008

You may e-mail your work until April 3 to szymanik@science.uva.nl, or hand it in at that date. In case you have any questions about the exercises, please contact me. Handouts with hints — as well as the literature they pointed to — might be helpful. You can download handouts from the course web page: <http://staff.science.uva.nl/~szymanik/structures>

Homework 1 *Show that class of ISOM type (1) quantifiers is closed under Boolean operations, including inner negations and duals. You can just explain it on examples. Take quantifiers which does not satisfy ISOM, what about their boolean combinations?*

Homework 2 *Give three examples of relativized quantifiers. Do they satisfy EXT? Why?*

Homework 3 *Proof that if Q is CE, then for all M and all $A, B \subseteq M$ we have:*

$$Q_M(A, B) \iff Q(\text{card}(A - B), \text{card}(A \cap B)).$$

Homework 4 *What is the square(Most) and square(not every)? Describe monotonicity in both arguments of each element.*

Homework 5 *How do number triangles for persistent, anti-persistent and CONT CE-quantifiers of type (1,1) look like. Give examples. Draw schematic pictures.*

Homework 6 *Consider the following 2 sentences, downward and upward monotone, respectively:*

(1) *Less than 5 students smiled together.*

(2) *More than 5 students smiled together.*

Assign an interpretation to (1) using the existential modifier and to (2) using the neutral modifier? What kind of problems you encountered? Now use the determiner fitting operator. How does it solve them?

Homework 7 *Read chapter 4 in Lønning 1997 “Plurals and collectivity”. In van Benthem, J. and ter Meulen, A., editors, Handbook of Logic and Language, pages 1009–1054, Elsevier, Amsterdam.*