Philosophy 240: Symbolic Logic Hamilton College
Fall 2008 Russell Marcus
Mondays, Wednesdays, Fridays: 9am - 9:50am rmarcus1@hamilton.edu

Homework Handout 2: Translating from Predicate Logic

Instructions: Use the given interpretations to translate the following arguments written in predicate logic into natural, English sentences.

Ax: "x is an athlete"
Bx: "x is brawny"
Cx: "x is a champion"
m: "Mary"
g: "Gail"
n: "Ned"

1. 1. $(x)(Ax \supset Bx)$
   2. $Am \bullet An$ / $Bm \bullet Bn$

2. 1. $(x)(Ax \supset Bx)$
   2. $(x)(Bx \supset Cx)$ / $(x)(Ax \supset Cx)$

3. 1. $(x)(Bx \supset Cx)$
   2. $(\exists x)(Ax \bullet Bx)$ / $(\exists x)(Ax \bullet Cx)$

4. 1. $(x)(Ax \supset Bx)$
   2. $\sim Bm$ / $(\exists x)\sim Ax$

5. 1. $(x)[Ax \supset (Bx \vee Cx)]$
   2. $Ag \bullet \sim Bg$ / Cg

6. 1. $(x)[(Ax \bullet Bx) \supset Cx]$
   2. $(\exists x)(Bx \bullet \sim Cx)$ / $(\exists x)\sim Ax$

7. 1. $(\exists x)Ax \supset (x)(Cx \supset Bx)$
   2. $(\exists x)(Ax \vee Bx)$
   3. $(x)(Bx \supset Ax)$ / $(x)(Cx \supset Ax)$