Homework Handout #4: 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 ⊃ Bx)
   2. Am • An / Bm • Bn

2. 1. (x)(Ax ⊃ Bx)
   2. (x)(Bx ⊃ Cx) / (x)(Ax ⊃ Cx)

3. 1. (x)(Bx ⊃ Cx)
   2. (∃x)(Ax • Bx) / (∃x)(Ax • Cx)

4. 1. (x)(Ax ⊃ Bx)
   2. ¬Bm / (∃x)¬Ax

5. 1. (x)[Ax ⊃ (Bx ∨ Cx)]
   2. Ag • ¬Bg / Cg

6. 1. (x)[(Ax • Bx) ⊃ Cx]
   2. (∃x)(Bx • ¬Cx) / (∃x)¬Ax

7. 1. (∃x)Ax ⊃ (x)(Cx ⊃ Bx)
   2. (∃x)(Ax ∨ Bx)
   3. (x)(Bx ⊃ Ax) / (x)(Cx ⊃ Ax)