

- (3) 1. $(\exists x)[Ax \cdot (y)(By \supset Cxy)]$
 2. $(\exists x)Ax \supset Bj$ / $(\exists x)Cxj$
 3. $Am \cdot (y)(By \supset Cmy)$ 1, EI
 4. Am 3, Simp
 5. $(\exists x)Ax$ 4, EG
 6. Bj 2, 5, MP
 7. $(y)(By \supset Cmy)$ 3, Com, Simp
 8. $Bj \supset Cmj$ 7, UI
 9. Cmj 6, 8, MP
 10. $(\exists x)Cxj$ 9, EG
- (4) 1. $(x)(\exists y)(Ax \supset By)$ / $(x)Ax \supset (\exists y)By$
 2. $(x)Ax$ ACP
 3. Ax 2, UI
 4. $(\exists y)(Ax \supset By)$ 1, UI
 5. $Ax \supset Bm$ 4, EI
 6. Bm 3, 5, MP
 7. $(\exists y)By$ 6, EG
 8. $(x)Ax \supset (\exists y)By$ 2-7, CP
- (5) 1. $(\exists x)Ax \supset (\exists y)By$ / $(\exists y)(x)(Ax \supset By)$
 2. Ax ACP
 3. $(\exists x)Ax$ 2, EG
 4. $(\exists y)By$ 1, 3, MP
 5. Bm 4, EI
 6. $Ax \supset Bm$ 2-5, CP
 7. $(x)(Ax \supset Bm)$ 6, UG
 8. $(\exists y)(x)(Ax \supset By)$ 7, EG
- (6) 1. $(x)(y)(Ax \supset By)$
 2. $(x)(\exists y)(Ax \supset Cy)$ / $(x)(\exists y)(Ax \supset (By \cdot Cy))$
 3. Ax ACP
 4. $(\exists y)(Ax \supset Cy)$ 2, UI
 5. $Ax \supset Cm$ 4, EI
 6. Cm 3, 5, MP
 7. $(y)(Ax \supset By)$ 1, UI
 8. $Ax \supset Bm$ 7, UI
 9. Bm 3, 8, MP
 10. $Bm \cdot Cm$ 6, 9, Conj
 11. $Ax \supset (Bm \cdot Cm)$ 3-10, CP
 12. $(\exists y)[Ax \supset (By \cdot Cy)]$ 11, EG
 13. $(x)(\exists y)[Ax \supset (By \cdot Cy)]$ 12, UG