

Solutions to Predicate Logic Translation II Handout

1.  $(\forall x)(Mx \supset Px)$
2.  $(\forall x)(Mx \supset \sim Px)$
3.  $(\exists x)(Mx \cdot Px)$
4.  $(\exists x)(Mx \cdot \sim Px)$
5.  $(\forall x)(Sx \supset Rx)$
6.  $\sim(\forall x)(Sx \supset Px)$  or  $(\exists x)(Sx \cdot \sim Px)$
7.  $(\exists x)(Cx \cdot Px)$
8.  $(\forall x)(Ex \supset Sx)$
9.  $(\forall x)(Sx \supset Ex)$
10.  $\sim(\forall x)(Gx \supset Ax)$
11.  $(\forall x)(Hx \supset \sim Ex)$
12.  $(\forall x)(Cx \supset Bx)$
13.  $(\exists x)[Sx \cdot (Ix \cdot Hx)]$
14.  $(\forall x)[Hx \supset (Dx \cdot Lx)]$
15.  $(\forall x)\{Ex \supset [(\sim Lx \vee \sim Mx) \vee Fx]\}$
16.  $(\exists x)[Mx \cdot (Tx \supset Dx)]$
17.  $(\exists x)[Mx \cdot (Dx \supset Tx)]$
18.  $(\forall x)[(Hx \cdot Vx) \supset Ax]$
19.  $(\exists x)[(Cx \cdot Sx) \cdot Px]$
20.  $(\forall x)[(Hx \cdot Gx) \supset Wx]$
21.  $(\forall x)[(Hx \cdot Gx) \supset Wx]$
22.  $(\forall x)[(Hx \cdot Wx) \supset Gx]$
23.  $(\forall x)\{[(Kx \cdot \sim Ex) \cdot Mx] \supset Hx\}$
24.  $(\forall x)[(Dx \vee Cx) \supset (Bx \cdot Sx)]$
25.  $(\forall x)(Sx \supset Wx) \supset (\exists x)(Wx \cdot Fx)$
26.  $(\exists x)(Ux \cdot Gx) \cdot \sim(\forall x)(Ux \supset Gx)$
27.  $(\forall x)[(Bx \cdot Rx) \supset Yx] \supset (\exists x)(Yx \cdot Rx)$
28.  $[(\exists x)(Ex \cdot Lx) \cdot (\exists x)(Px \cdot \sim Fx)] \supset (\exists x)(Ex \cdot \sim Sx)$
29.  $(\forall x)[Cx \supset (\sim Wx \vee Sx)]$  or  $(\forall x)[Cx \supset (\sim Sx \supset \sim Wx)]$  or  
 $(\forall x)[(Cx \cdot Wx) \supset Sx]$  or  $\sim(\exists x)(Cx \cdot Wx \cdot \sim Sx)$
30.  $(\forall x)\{Px \supset [Gx \equiv (Wx \cdot Ex)]\}$