Philosophy 240: Symbolic Logic
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Identity Theory Jigsaw Lesson
Work Group: Except

I. Translation key:

c: Creed; g: Angela; m: Michael; n: Jan; p: Pam; o: the Office; r: Scranton; s: Stanley; t: Toby
Ax: x is an accountant; Dx: x is a drug test; Ex: x is an employee; Hx: x is happy; Px: x is a person; Sx: x is a salesperson; Tx: x is a product
Ixy: x is in y; Kxy: x likes y; Lxy: x loves y; Pxy: x passed y; Sxy: x sells y; Txy: x tolerates y; Vxy: x lives in y
Gxyz: x would give y to z

II. Examine the translations below, which use the key in I.

1. Everyone loves Pam.

   $(x)(Px \supset Lxp)$

2. Everyone except Angela loves Pam.

   $Pa \bullet {\sim}Lap \bullet (x)[(Px \bullet x \neq a) \supset Lxp]$

3. Someone likes all employees except Toby.

   $Et \bullet (\exists x)\{Px \bullet {\sim}Kxt \bullet (y)[(Ey \bullet y \neq t) \supset Kxy]\}$

4. Everyone in the office except Pam lives in Scranton.

   $Pp \bullet Ipo \bullet {\sim}Vps \bullet (x)[(Px \bullet Ixo \bullet x \neq p) \supset Vxs]$

5. Everyone but Creed passed a drug test.

   $Pc \bullet (x)(Dx \supset {\sim}Pcx) \bullet (x)[(Px \bullet x \neq c) \supset (\exists y)(Dy \bullet Pxy)]$

III. Try these, using the key in I.

6. All employees are happy except Stanley.

7. No one except Michael tolerates Jan.

8. Some products are sold by all employees except Michael.