Logic I
Fall 2009
Quiz 5

1. (8 pts. each) For each of the strings of symbols below, identify whether it counts as a sentence of PL, a formula of PL, both, or neither. (Let 'F' and 'G' be 1-place predicate letters, 'R' a two-place predicate letter, 'A' a sentence letter.)

   (a) Fx

   (b) Rb

   (c) $(Ga \ \& \ Ga)$

   (d) $\forall y Rxy$

   (e) $(\exists z)Fz$

   (f) $(A \supset (\exists x)Gx)$

   (g) $(\forall x)(\exists y)(Gx \ \& \ Fy)$

   (h) $(\forall x)(\exists z)(Gx \ \& \ Fy)$

   (i) $((\forall x)Fx \ \& \ (\forall x)Gx)$

   (j) $(\forall x)(Fx \ \& \ (\forall x)Gx)$

2. (20 pts.) In a few sentences, briefly explain why we want to move from SL to the more complicated language PL.

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