Demonstration of Tests of Conversion of PM Dot Notation to Parentheses

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SECTION 0. VERIFICATION TESTS (of dot to paren dot icn)
For each proposition is given:
1: the PM notation with dots.
2: the notation with parentheses
3: the Polish (with Lukasiewicz symbols) notation

$*2{\cdot}06 \vdash :: p \supset q \,.\supset: q \supset r \,.\supset. p \supset r$
Version with parentheses
$*2{\cdot}06 \vdash (p \supset q) \supset ((q \supset r) \supset (p \supset r))$
$*3{\cdot}47 \vdash :: p \supset r \,.\, q \supset s \,.\supset: p \,.\, q \,.\supset. r \,.\, s$
Version with parentheses
$*3{\cdot}47 \vdash (p \supset r) \wedge (q \supset s) \supset ((p) \wedge (q) \supset (r) \wedge (s))$
$*4{\cdot}22 \vdash : p \equiv q \,.\, q \equiv r \,.\supset. p \equiv r$
Version with parentheses
$*4{\cdot}22 \vdash (p \equiv q) \wedge (q \equiv r) \supset (p \equiv r)$
$*4{\cdot}41 \vdash :: p \,.\vee.\, q \,.\, r : \equiv . p \vee q \,.\, p \vee r$
Version with parentheses
$*4{\cdot}41 \vdash ((p) \vee (q) \wedge (r)) \equiv (p \vee q) \wedge (p \vee r)$
$*4{\cdot}43 \vdash :: p \,.\equiv: p \vee q \,.\, p \vee \sim q$
Version with parentheses
$*4{\cdot}43 \vdash (p) \equiv ((p \vee q) \wedge (p \vee \sim q))$
$*4{\cdot}44 \vdash :: p \,.\equiv: p \,.\vee.\, p \,.\, q$
Version with parentheses
$*4{\cdot}44 \vdash (p) \equiv ((p) \vee (p) \wedge (q))$
$*4{\cdot}87 \vdash :: p \,.\, q \,.\supset.\, r : \equiv : p \,.\supset.\, q \supset r : \equiv : q \,.\supset.\, p \supset r : \equiv : q \,.\, p \,.\supset.\, r$
Version with parentheses
$*4{\cdot}87 \vdash ((p) \wedge (q) \supset (r)) \equiv ((p) \supset (q \supset r)) \equiv ((q) \supset (p \supset r)) \equiv ((q) \wedge (p) \supset (r))$
$*4{\cdot}88 \vdash :: p \,.\, q \,.\supset.\, r \,.\equiv: p \,.\supset.\, q \supset r : \equiv : q \,.\supset.\, p \supset r : \equiv : q \,.\, p \,.\supset.\, r$
Version with parentheses
$*4{\cdot}88 \vdash (p) \wedge (q) \supset (r) \equiv ((p) \supset (q \supset r)) \equiv ((q) \supset (p \supset r)) \equiv ((q) \wedge (p) \supset (r))$
$*5{\cdot}33 \vdash :: p \,.\, q \supset r \,.\equiv: p : p \,.\, q \,.\supset.\, r$

Version with parentheses
$*5{\cdot}33 \vdash (p) \wedge (q \supset r) \equiv (p) \wedge ((p) \wedge (q) \supset (r))$
From Landon D. C. Elkind's Paper in Russell: Vol. 43, no. 1, page 44
$*431{\cdot}441 \vdash . p \vee q . \equiv . r \supset s$
Version with parentheses
$*431{\cdot}441 \vdash (p \vee q) \equiv (r \supset s)$
$*431{\cdot}442 \vdash : p . \vee . q \equiv r : \supset : s$
Version with parentheses
$*431{\cdot}442 \vdash ((p) \vee (q \equiv r)) \supset ((s))$
$*431{\cdot}443 \vdash : p \vee q . \equiv . r : \supset : s$
Version with parentheses
$*431{\cdot}443 \vdash ((p \vee q) \equiv (r)) \supset ((s))$
$*431{\cdot}444 \vdash : p : \vee : q \equiv r . \supset . s$
Version with parentheses
$*431{\cdot}444 \vdash (p) \vee ((q \equiv r) \supset (s))$
$*431{\cdot}445 \vdash : p : \vee : q . \equiv . r \supset s$
Version with parentheses
$*431{\cdot}445 \vdash (p) \vee ((q) \equiv (r \supset s))$
From same, page 54
$*431{\cdot}54 \vdash : p . q : r . s : \supset : p . s : r . q$
Version with parentheses
$*431{\cdot}54 \vdash ((p) \wedge (q)) \wedge ((r) \wedge (s)) \supset ((p) \wedge (s)) \wedge ((r) \wedge (q))$
check longer prop name
Version with parentheses
Propositions involving quantifiers
$*9{\cdot}2 \vdash : (x) . psix . \supset . psiy$
Version with parentheses
$*9{\cdot}2 \vdash (((x))psix) \supset (psiy)$
$*9{\cdot}21 \vdash :. (x) . psix \supset phix . \supset : (x) . psix . \supset . (x) . phix$
Version with parentheses
$*9{\cdot}21 \vdash (((x))psix \supset phix) \supset (((x))psix) \supset ((x))phix$
$*9{\cdot}22 \vdash :. (x) . psix \supset phix . \supset : (\exists x) . psix . \supset . (\exists x) . phix$
Version with parentheses
$*9{\cdot}22 \vdash (((x))psix \supset phix) \supset (((\exists x))psix) \supset ((\exists x))phix$
$*9{\cdot}31 \vdash :. (\exists x) . phix . \vee . (\exists x) . phix : \supset . (\exists x) . phix$
Version with parentheses
$*9{\cdot}31 \vdash (((((\exists x))phix) \vee ((\exists x))phix)) \supset ((\exists x))phix$
$*9{\cdot}401 \vdash :: p : \vee : q . \vee . (\exists x) . psix :. \supset :. q : \vee : p . \vee . (\exists x) . psix$
Version with parentheses
$*9{\cdot}401 \vdash (((p) \vee ((q) \vee ((\exists x))psix))) \supset ((q) \vee ((p) \vee ((\exists x))psix))$
$*10{\cdot}35 \vdash :. (\exists x) . p . psix . \equiv : p : (\exists x) . psix$
Version with parentheses
$*10{\cdot}35 \vdash (((\exists x))p) \wedge (psix) \equiv (p) \wedge (((\exists x))psix)$
$*11{\cdot}2 \vdash : (x, y) . phi[x, y] . \equiv . (y, x) . phi[x, y]$

Version with parentheses
$*11{\cdot}2 \vdash ((x,y)\,.\,phi[x,y]) \equiv ((y,x)\,.\,phi[x,y])$
One Step in proof of 11.55 I wanted example of 2 adjacent quantifiers - hard to find.
$*11{\cdot}551 \vdash :: (x) :: (\exists y)\,.\,psix\,.\,phi[x,y]\,.\equiv :psix : (\exists y)\,.\,phi[x,y]$
Version with parentheses
$*11{\cdot}551 \vdash ((((x))(\exists y))psix) \wedge (phi[x,y]) \equiv (psix) \wedge (((\exists y))phi[x,y])$
From same, page 46
$*431{\cdot}46 \vdash : (x)\,.\,psix\,.\,phix\,.\supset.\,(x)\,.\,psix$
Version with parentheses
$*431{\cdot}46 \vdash (((x))psix) \wedge (phix) \supset ((x))psix$
Other Tests
$*99{\cdot}99 \vdash :: \sim(\exists x) : \sim psix\,.\supset.\,(x)\,.\sim psix$
Version with parentheses
$*99{\cdot}99 \vdash ((\sim(\exists x))\sim psix) \supset ((x))\sim psix$