--
-- ————————- PROOF ————————-
-- Length of proof is 22 . Level of proof is 10 .
-- 1 [ ] ¬x⊆y ∨ x∪y=y
-- 2 [ ] x⊆y ∨ x∪y≠y
-- 5 [ ] ¬x⊆y ∨ ¬x⊆z ∨ x⊆y∩z
-- 6 [ ] x∪y≠y ∨ zox∪zoy=zoy
-- 7 [ ] x∪y≠y ∨ $\overline{z\cup y}$∪$\bar{x}$=$\bar{x}$
-- 8 [ ] x∪y≠y ∨ xoz∪yoz=yoz
-- 9 [ ] ¬(c4∩c2)o(c3∩c1)⊆c4oc3
-- 11 [ ] x∪y=y∪x
-- 12 [ ] x∪(y∪z)=x∪y∪z
-- 13 [copy , 12 , flip . 1] x∪y∪z=x∪(y∪z)
-- 17 [ ] x∩y=$\overline{\bar{x}\cup\bar{y}}$
-- 18 [copy , 17 , flip . 1] $\overline{\bar{x}\cup\bar{y}}$=x∩y
-- 20 [ ] x∪x=x
-- 22 [ ] x∩y⊆x
-- 26 [hyper , 20 , 7] $\overline{x\cup y}$∪$\bar{y}$=$\bar{y}$
-- 28 [hyper , 20 , 2] x⊆x

-- 29 [hyper , 28 , 5 , 28] $x \subseteq x \cap x$
-- 33 [hyper , 22 , 1] $x \cap y \cup x = x$
-- 46 [para_into , 11 . 1 . 1 , 1 . 2 . 1 , flip . 1] $x \cup y = x \vee \neg y \subseteq x$
-- 62 [hyper , 29 , 1] $x \cup x \cap x = x \cap x$
-- 75 [hyper , 33 , 8] $(x \cap y) \circ z \cup x \circ z = x \circ z$
-- 79 [hyper , 33 , 6] $x \circ (y \cap z) \cup x \circ y = x \circ y$
-- 86 , 85 [para_into , 33 . 1 . 1 , 11 . 1 . 1] $x \cup x \cap y = x$
-- 88 , 87 [back_demod , 62 , demod , 86 , flip . 1] $x \cap x = x$
-- 176 , 175 [para_into , 18 . 1 . 1 . 1 , 20 . 1 . 1 , demod , 88] $\bar{\bar{x}} = x$
-- 249 [hyper , 26 , 2] $\overline{x \cup y} \subseteq \bar{y}$
-- 267 [para_into , 249 . 1 . 1 . 1 , 11 . 1 . 1] $\overline{x \cup y} \subseteq \bar{x}$
-- 274 [para_into , 267 . 1 . 1 . 1 , 26 . 1 . 1 , demod , 176 , 176] $x \subseteq y \cup x$
-- 293 [para_into , 274 . 1 . 2 , 13 . 1 . 1] $x \subseteq y \cup (z \cup x)$
-- 343 [para_into , 293 . 1 . 2 . 2 , 46 . 1 . 1] $x \subseteq y \cup z \vee \neg x \subseteq z$
-- 744 [para_into , 343 . 1 . 2 , 46 . 1 . 1] $x \subseteq y \vee \neg x \subseteq z \vee \neg z \subseteq y$
-- 2350 [hyper , 75 , 2] $(x \cap y) \circ z \subseteq x \circ z$
-- 2570 [hyper , 79 , 2] $x \circ (y \cap z) \subseteq x \circ y$
-- 6861 [hyper , 2570 , 744 , 2350] $(x \cap y) \circ (z \cap u) \subseteq x \circ z$
-- 6862 [binary , 6861 . 1 , 9 . 1] F

```
--  ———————— end of proof ————————-
--
--
--  Search stopped by max_proofs option .
--
--  = = = = = = = = = = = = = end of search = = = = = = = = = = = = =
--
--  ——————— statistics ————————-
--  clauses given 185
--  clauses generated 24739
--  clauses kept 6339
--  clauses forward subsumed 11909
--  clauses back subsumed 67
--  Kbytes malloced 4119
--
--  ———————— times ( seconds ) ————————
--  user CPU time 4 . 30 ( 0 hr , 0 min , 4 sec )
--  system CPU time 0 . 0 ( 0 hr , 0 min , 0 sec )
--  wall - clock time 5 ( 0 hr , 0 min , 5 sec )
```