

# t12\_waybel\_3

(TMXPd35KK35CuNEPFFKeVAENV8QfDk1Hk71)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\ (u1\_struct\_0 X0)) \Rightarrow (((r3\_orders\_2 X0 X1 X2) \wedge ((r1\_waybel\_3 X0 X2 \\ X3) \wedge (r3\_orders\_2 X0 X3 X4)) \Rightarrow (r1\_waybel\_3 X0 X1 X4))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (r3\_orders\_2 X0 X1 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k2\_waybel\_3 \\ X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1\_subset\_1 X2 (u1\_struct\_0 \\ X0))) (\lambda X2 : \iota.r1\_waybel\_3 X0 X1 X2) (\lambda X2 : \iota.X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k1\_waybel\_3 \\ X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1\_subset\_1 X2 (u1\_struct\_0 \\ X0))) (\lambda X2 : \iota.r1\_waybel\_3 X0 X2 X1) (\lambda X2 : \iota.X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r3\_orders\_2 \\ & X0 X1 X2) \Rightarrow ((r1\_tarski (k1\_waybel\_3 X0 X1) (k1\_waybel\_3 X0 X2)) \wedge \\ & (r1\_tarski (k2\_waybel\_3 X0 X2) (k2\_waybel\_3 X0 X1)))))) \end{aligned}$$