

# t19\_compos\_2

(TMPRMg4YUxQaN17XgbsqwzD3bNcJzfp5jrK)

October 27, 2020

Let  $v1\_amistd.4 : \iota \Rightarrow o$  be given. Let  $l1\_compos.1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $v4\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos.1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct.1 : \iota \Rightarrow o$  be given. Let  $v1\_finset.1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq.1 : \iota \Rightarrow o$  be given. Let  $v3\_compos.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_compos.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_compos.2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_compos.2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k63\_valued.1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_amistd.4 X0) \wedge (l1\_compos.1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1\_xboole.0 X1) \wedge ((v1\_relat.1 X1) \wedge ((v4\_relat.1 X1 k5\_numbers) \wedge \\ & ((v5\_relat.1 X1 (u1\_compos.1 X0)) \wedge ((v1\_funct.1 X1) \wedge ((v1\_finset.1 \\ & X1) \wedge ((v1\_afinsq.1 X1) \wedge (v4\_compos.1 X1 X0))))))) \Rightarrow (\forall X2. \\ & ((\neg v1\_xboole.0 X2) \wedge ((v1\_relat.1 X2) \wedge ((v4\_relat.1 X2 k5\_numbers) \wedge \\ & ((v5\_relat.1 X2 (u1\_compos.1 X0)) \wedge ((v1\_funct.1 X2) \wedge ((v1\_finset.1 \\ & X2) \wedge ((v1\_afinsq.1 X2) \wedge (v3\_compos.1 X2 X0))))))) \Rightarrow ((r1\_tarski \\ & (k63\_valued.1 X1) X2) \Rightarrow (r1\_tarski (k63\_valued.1 X1) (k63\_valued.1 \\ & X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1\_xboole.0 X0) \wedge ((v1\_relat.1 X0) \wedge \\ & ((v4\_relat.1 X0 k5\_numbers) \wedge ((v1\_funct.1 X0) \wedge (v1\_finset.1 X0)))))) \wedge \\ & ((\neg v1\_xboole.0 X1) \wedge ((v1\_relat.1 X1) \wedge ((v4\_relat.1 X1 k5\_numbers) \wedge \\ & ((v1\_funct.1 X1) \wedge (v1\_finset.1 X1)))))) \Rightarrow ((r2\_compos.2 X0 X1) \Leftrightarrow \\ & (r1\_compos.2 X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole.0 X0) \wedge ((v1\_relat.1 X0) \wedge ((v4\_relat.1 \\ & X0 k5\_numbers) \wedge ((v1\_funct.1 X0) \wedge (v1\_finset.1 X0)))))) \Rightarrow (\forall X1. \\ & (r1\_compos.2 X0 X1) \Leftrightarrow (r1\_tarski (k63\_valued.1 X0) X1)) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1\_xboole\_0 X1) \wedge (v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 \ k5\_numbers) \wedge \\ & ((v5\_relat\_1 X1 \ (u1\_compos\_1 X0)) \wedge (v1\_funct\_1 X1) \wedge (v1\_finset\_1 \\ & X1) \wedge (v1\_afinsq\_1 X1) \wedge (v3\_compos\_1 X1 \ X0) \wedge (v4\_compos\_1 X1 \ X0)))))) \Rightarrow \\ & (\forall X2.((\neg v1\_xboole\_0 X2) \wedge (v1\_relat\_1 X2) \wedge (v4\_relat\_1 \\ & X2 \ k5\_numbers) \wedge (v5\_relat\_1 X2 \ (u1\_compos\_1 X0)) \wedge (v1\_funct\_1 \\ & X2) \wedge (v1\_finset\_1 X2) \wedge (v1\_afinsq\_1 X2) \wedge (v3\_compos\_1 X2 \ X0) \wedge \\ & (v4\_compos\_1 X2 \ X0)))))) \Rightarrow (\forall X3.((r2\_compos\_2 X1 \ X2) \wedge \\ & (r1\_compos\_2 X2 \ X3)) \Rightarrow (r1\_compos\_2 X1 \ X3))) \end{aligned}$$