

t20\_fomodel0

(TMR6fRmApv7WJ1mrUM6pPrykV6PVYMW8DHj)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((k4\_tarski X0 X1 \in X2) \Leftrightarrow ((X0 \in k9\_xtuple\_0 X2) \wedge (X1 = k1\_funct\_1 X2 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Leftrightarrow (\forall X1. \neg (X1 \in X0) \wedge (\forall X2. \forall X3. X1 \neq k4\_tarski X2 X3)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \quad (5)$$

**Theorem 1**

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (X0 = \text{ReplSep } (\text{toset } (\lambda X1 : \iota. m1\_subset\_1 X1 (k9\_xtuple\_0 X0))) (\lambda X1 : \iota. X1 \in k9\_xtuple\_0 X0) (\lambda X1 : \iota. k4\_tarski X1 (k1\_funct\_1 X0 X1))))$$