t29_wellord1 (TMcU-RUKp7eUZ2TS7q9y6m96o5BMPhSnRk3t)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v2\_wellord1 : \iota \Rightarrow o$ be given. Let $k1\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_wellord1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6\_relat\_2 : \iota \Rightarrow o$ be given. Let $v4\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $v1\_wellord1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1\ X2) \Rightarrow ((X0 \in k1\_wellord1\ X2\ X1) \Leftrightarrow ((X0 \neq X1) \wedge (k4\_tarski\ X0\ X1 \in X2))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow ((v6\_relat\_2\ X0) \Leftrightarrow (\forall X1.\forall X2.\neg(X1 \in k1\_relat\_1\ X0) \wedge ((X2 \in k1\_relat\_1\ X0) \wedge ((X1 \neq X2) \wedge ((\neg k4\_tarski\ X1\ X2 \in X0) \wedge (\neg k4\_tarski\ X2\ X1 \in X0))))))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow ((v4\_relat\_2\ X0) \Leftrightarrow (\forall X1.\forall X2.((k4\_tarski\ X1\ X2 \in X0) \wedge (k4\_tarski\ X2\ X1 \in X0)) \Rightarrow (X1 = X2))) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow ((v8\_relat\_2\ X0) \Leftrightarrow (\forall X1.\forall X2.\forall X3.((k4\_tarski\ X1\ X2 \in X0) \wedge (k4\_tarski\ X2\ X3 \in X0)) \Rightarrow (k4\_tarski\ X1\ X3 \in X0))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow ((v1\_relat\_2\ X0) \Leftrightarrow (\forall X1.(X1 \in k1\_relat\_1\ X0) \Rightarrow (k4\_tarski\ X1\ X1 \in X0))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v2\_wellord1\ X0)) \Rightarrow ((v1\_relat\_1\ X0) \wedge ((v1\_relat\_2\ X0) \wedge ((v4\_relat\_2\ X0) \wedge ((v6\_relat\_2\ X0) \wedge ((v8\_relat\_2\ X0) \wedge (v1\_wellord1\ X0))))))) \tag{10}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1\ X2) \Rightarrow (((v2\_wellord1\ X2) \wedge ((X0 \in k1\_relat\_1\ X2) \wedge (X1 \in k1\_relat\_1\ X2))) \Rightarrow ((k4\_tarski\ X0\ X1 \in X2) \Leftrightarrow (r1\_tarski\ (k1\_wellord1\ X2\ X0)\ (k1\_wellord1\ X2\ X1))))$$