l59_orders_1 (TMFMPMBsT2TQoevLMQiusaPV7NpDBcAx1jK)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $r8\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (k2\_relat\_1\ (k2\_relat\_1\ X0) = X0) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k2\_relat\_1\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(r8\_relat\_2\ X0\ X1) \Leftrightarrow (\forall X2.\ \forall X3.\forall X4.((X2 \in X1) \wedge ((X3 \in X1) \wedge ((X4 \in X1) \wedge ((k4\_tarski\ X2\ X3 \in X0) \wedge (k4\_tarski\ X3\ X4 \in X0))))) \Rightarrow (k4\_tarski\ X2\ X4 \in X0))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(v1\_relat\_1\ X1) \Rightarrow ((X1 = k2\_relat\_1\ X0) \Leftrightarrow (\forall X2.\forall X3.(k4\_tarski\ X2\ X3 \in X1) \Leftrightarrow (k4\_tarski\ X3\ X2 \in X0)))) \tag{4}$$

Theorem 1

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(r8\_relat\_2\ X0\ X1) \Rightarrow (r8\_relat\_2\ (k2\_relat\_1\ X0)\ X1))$$