t35_sysrel (TMNt89s6uuzT8VWEXz8uZGsmqBb8gNGQ3Rh)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow (k6\_relat\_1\ X0\ X1 = k3\_relat\_1\ X1\ (k4\_relat\_1\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(v1\_relat\_1\ X1) \Rightarrow (\forall X2.\ (v1\_relat\_1\ X2) \Rightarrow (k3\_relat\_1\ (k2\_xboole\_0\ X0\ X1)\ X2 = k2\_xboole\_0\ (k3\_relat\_1\ X0\ X2)\ (k3\_relat\_1\ X1\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow (k5\_relat\_1\ X1\ X0 = k3\_relat\_1\ (k4\_relat\_1\ X0)\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ (k4\_xboole\_0\ X1\ X0) = k2\_xboole\_0\ X0\ X1 \tag{4}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(v1\_relat\_1\ X1) \Rightarrow (\forall X2.\ (v1\_relat\_1\ X2) \Rightarrow (k3\_relat\_1\ X0\ (k2\_xboole\_0\ X1\ X2) = k2\_xboole\_0\ (k3\_relat\_1\ X0\ X1)\ (k3\_relat\_1\ X0\ X2))))) \tag{5}$$

Assume the following.

$$\forall X0.k2\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (k2\_xboole\_0\ X0\ X1 = X1) \tag{7}$$

Assume the following.

$$\forall X0.k3\_relat\_1\ (k4\_relat\_1\ X0)\ (k4\_relat\_1\ X0) = k4\_relat\_1\ X0 \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k4\_xboole\_0\ X0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.v1\_relat\_1\ (k4\_relat\_1\ X0) \tag{11}$$

Theorem 1

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow ((((r1\_tarski\ (k4\_relat\_1\ X0)\ X1) \wedge (k3\_relat\_1\ (k4\_relat\_1\ X0)\ (k6\_subset\_1\ X1\ (k4\_relat\_1\ X0)) = k1\_xboole\_0)) \Rightarrow (k5\_relat\_1\ X1\ X0 = k4\_relat\_1\ X0)) \wedge (((r1\_tarski\ (k4\_relat\_1\ X0)\ X1) \wedge (k3\_relat\_1\ (k6\_subset\_1\ X1\ (k4\_relat\_1\ X0))\ (k4\_relat\_1\ X0) = k1\_xboole\_0)) \Rightarrow (k6\_relat\_1\ X0\ X1 = k4\_relat\_1\ X0)))$$