

t66_interva1 (TMKtKzyXKpqh- swe1D58uKYnHKjQQdF22rCc)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_roughs_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m2_interval : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_interval : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k14_interval : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m2_interval X1 X0) \Rightarrow (\forall X2.(m2_interval \\ & X2 X0) \Rightarrow (k15_interval X0 (k17_interval X0 X1 X2) = k9_subset_1 (u1_struct_0 \\ & X0) (k15_interval X0 X1) (k15_interval X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m2_interval X1 X0) \Rightarrow (\forall X2.(m2_interval \\ & X2 X0) \Rightarrow (k14_interval X0 (k17_interval X0 X1 X2) = k9_subset_1 (u1_struct_0 \\ & X0) (k14_interval X0 X1) (k14_interval X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m2_interval X1 X0) \Rightarrow (\forall X2.(m2_interval \\ & X2 X0) \Rightarrow (k15_interval X0 (k16_interval X0 X1 X2) = k4_subset_1 (u1_struct_0 \\ & X0) (k15_interval X0 X1) (k15_interval X0 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (\forall X2.(m2_interval1 \\ X2 X0) \Rightarrow (k14_interval1 X0 (k16_interval1 X0 X1 X2) = k4_subset_1 (u1_struct_0 \\ X0) (k14_interval1 X0 X1) (k14_interval1 X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3_xboole_0 X0 (k2_xboole_0 \\ X1 X2) = k2_xboole_0 (k3_xboole_0 X0 X1) (k3_xboole_0 X0 X2) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m2_interval1 X1 X0) \wedge (m2_interval1 X2 \\ X0))) \Rightarrow ((r2_interval1 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m2_interval1 X1 X0) \wedge (m2_interval1 X2 \\ X0))) \Rightarrow (m2_interval1 (k17_interval1 X0 X1 X2) X0) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m2_interval1 X1 X0) \wedge (m2_interval1 X2 \\ X0))) \Rightarrow (m2_interval1 (k16_interval1 X0 X1 X2) X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge \\ (l1_orders_2 X0))) \wedge (m2_interval1 X1 X0)) \Rightarrow (m1_subset_1 (k15_interval1 \\ X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge \\ (l1_orders_2 X0))) \wedge (m2_interval1 X1 X0)) \Rightarrow (m1_subset_1 (k14_interval1 \\ X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (\forall X2.(m2_interval1 \\ X2 X0) \Rightarrow (k17_interval1 X0 X1 X2 = k4_tarski (k9_subset_1 (u1_struct_0 \\ X0) (k14_interval1 X0 X1) (k14_interval1 X0 X2)) (k9_subset_1 (u1_struct_0 \\ X0) (k15_interval1 X0 X1) (k15_interval1 X0 X2)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (\forall X2.(m2_interval1 \\ X2 X0) \Rightarrow (k16_interval1 X0 X1 X2 = k4_tarski (k4_subset_1 (u1_struct_0 \\ X0) (k14_interval1 X0 X1) (k14_interval1 X0 X2)) (k4_subset_1 (u1_struct_0 \\ X0) (k15_interval1 X0 X1) (k15_interval1 X0 X2)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (k15_interval1 X0 X1 = k2_xtuple_0 \\ X1)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (k14_interval1 X0 X1 = k1_xtuple_0 \\ X1)) \end{aligned} \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_roughs_1 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m2_interval1 X1 X0) \Rightarrow (\forall X2.(m2_interval1 \\ X2 X0) \Rightarrow (\forall X3.(m2_interval1 X3 X0) \Rightarrow (r2_interval1 X0 (k17_interval1 \\ X0 X1 (k16_interval1 X0 X2 X3)) (k16_interval1 X0 (k17_interval1 X0 \\ X1 X2) (k17_interval1 X0 X1 X3)))))) \end{aligned}$$