

t64\_interval1  
(TMHinjbAN8zNTQn7MC5dnnqNi1cGzeji7Di)

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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  $m2\_interval1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k16\_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_interval1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k14\_interval1 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_roughs\_1 X0) \wedge (l1\_orders\_2 \\ & X0))) \Rightarrow (\forall X1. (m2\_interval1 X1 X0) \Rightarrow (\forall X2. (m2\_interval1 \\ & X2 X0) \Rightarrow (k15\_interval1 X0 (k16\_interval1 X0 X1 X2) = k4\_subset\_1 (u1\_struct\_0 \\ & X0) (k15\_interval1 X0 X1) (k15\_interval1 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_roughs\_1 X0) \wedge (l1\_orders\_2 \\ & X0))) \Rightarrow (\forall X1. (m2\_interval1 X1 X0) \Rightarrow (\forall X2. (m2\_interval1 \\ & X2 X0) \Rightarrow (k14\_interval1 X0 (k16\_interval1 X0 X1 X2) = k4\_subset\_1 (u1\_struct\_0 \\ & X0) (k14\_interval1 X0 X1) (k14\_interval1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k2\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_roughs\_1 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m2\_interval1 X1 X0) \wedge (m2\_interval1 X2 \\ & X0))) \Rightarrow ((r2\_interval1 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = \\ & k2\_xboole\_0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(v3\_roughs\_1 X0)\wedge(l1\_orders\_2 X0))\wedge(m2\_interval1 X1 X0)\wedge(m2\_interval1 X2 X0))\Rightarrow(m2\_interval1 (k16\_interval1 X0 X1 X2) X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(v3\_roughs\_1 X0)\wedge(l1\_orders\_2 X0))\wedge(m2\_interval1 X1 X0))\Rightarrow(m1\_subset\_1 (k15\_interval1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(v3\_roughs\_1 X0)\wedge(l1\_orders\_2 X0))\wedge(m2\_interval1 X1 X0))\Rightarrow(m1\_subset\_1 (k14\_interval1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(v3\_roughs\_1 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1.(m2\_interval1 X1 X0)\Rightarrow(\forall X2.(m2\_interval1 X2 X0)\Rightarrow(k16\_interval1 X0 X1 X2 = k4\_tarski (k4\_subset\_1 (u1\_struct\_0 X0) (k14\_interval1 X0 X1) (k14\_interval1 X0 X2)) (k4\_subset\_1 (u1\_struct\_0 X0) (k15\_interval1 X0 X1) (k15\_interval1 X0 X2)))))) \quad (9)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(v3\_roughs\_1 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1.(m2\_interval1 X1 X0)\Rightarrow(\forall X2.(m2\_interval1 X2 X0)\Rightarrow(\forall X3.(m2\_interval1 X3 X0)\Rightarrow(r2\_interval1 X0 (k16\_interval1 X0 (k16\_interval1 X0 X1 X2) X3) (k16\_interval1 X0 X1 (k16\_interval1 X0 X2 X3))))))$$