t65_interva1 (TMUo4BG1XFcf9ZUABbT1xjGbsVmKc525RNV)

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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 $m2\_interva1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k14\_interva1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_roughs\_1\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m2\_interva1\ X1\ X0) \Rightarrow (\forall X2.(m2\_interva1\ X2\ X0) \Rightarrow (k15\_interva1\ X0\ (k17\_interva1\ X0\ X1\ X2) = k9\_subset\_1\ (u1\_struct\_0\ X0)\ (k15\_interva1\ X0\ X1)\ (k15\_interva1\ X0\ X2)))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_roughs\_1\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m2\_interva1\ X1\ X0) \Rightarrow (\forall X2.(m2\_interva1\ X2\ X0) \Rightarrow (k14\_interva1\ X0\ (k17\_interva1\ X0\ X1\ X2) = k9\_subset\_1\ (u1\_struct\_0\ X0)\ (k14\_interva1\ X0\ X1)\ (k14\_interva1\ X0\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_xboole\_0\ (k3\_xboole\_0\ X0\ X1)\ X2 = k3\_xboole\_0\ X0\ (k3\_xboole\_0\ X1\ X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v3\_roughs\_1\ X0) \wedge (l1\_orders\_2\ X0))) \wedge ((m2\_interva1\ X1\ X0) \wedge (m2\_interva1\ X2\ X0))) \Rightarrow ((r2\_interva1\ X0\ X1\ X2) \Leftrightarrow (X1 = X2)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow (k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\wedge((m2\_interva1\ X1\ X0)\wedge(m2\_interva1\ X2\ X0)))\Rightarrow(m2\_interva1\ (k17\_interva1\ X0\ X1\ X2)\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\wedge(m2\_interva1\ X1\ X0))\Rightarrow(m1\_subset\_1\ (k15\_interva1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\wedge(m2\_interva1\ X1\ X0))\Rightarrow(m1\_subset\_1\ (k14\_interva1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(\forall X1.(m2\_interva1\ X1\ X0)\Rightarrow(\forall X2.(m2\_interva1\ X2\ X0)\Rightarrow(k17\_interva1\ X0\ X1\ X2 = k4\_tarski\ (k9\_subset\_1\ (u1\_struct\_0\ X0)\ (k14\_interva1\ X0\ X1)\ (k14\_interva1\ X0\ X2))\ (k9\_subset\_1\ (u1\_struct\_0\ X0)\ (k15\_interva1\ X0\ X1)\ (k15\_interva1\ X0\ X2))))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(\forall X1.(m2\_interva1\ X1\ X0)\Rightarrow(k15\_interva1\ X0\ X1 = k2\_xtuple\_0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(\forall X1.(m2\_interva1\ X1\ X0)\Rightarrow(k14\_interva1\ X0\ X1 = k1\_xtuple\_0\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(k9\_subset\_1\ X0\ X1\ X2 = k9\_subset\_1\ X0\ X2\ X1) \tag{12}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_roughs\_1\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(\forall X1.(m2\_interva1\ X1\ X0)\Rightarrow(\forall X2.(m2\_interva1\ X2\ X0)\Rightarrow(\forall X3.(m2\_interva1\ X3\ X0)\Rightarrow(r2\_interva1\ X0\ (k17\_interva1\ X0\ (k17\_interva1\ X0\ X1\ X2)\ X3)\ (k17\_interva1\ X0\ X1\ (k17\_interva1\ X0\ X2\ X3))))))$$