l9_real_lat (TMRr4fB1mPvckvbZ2rRb36B7mbiEKiznUm8)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_real\_lat : \iota$ be given. Let $k2\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow (r1\_xxreal\_0\ X0\ X0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_real\_lat)) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k3\_real\_lat))) \Rightarrow (k2\_lattices\ k3\_real\_lat\ X0\ X1 = k3\_xxreal\_0\ X0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_real\_lat)) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k3\_real\_lat))) \Rightarrow (k1\_lattices\ k3\_real\_lat\ X0\ X1 = k4\_xxreal\_0\ X0\ X1) \tag{3}$$

Assume the following.

$$v3\_membered\ (u1\_struct\_0\ k3\_real\_lat) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow ((r1\_xxreal\_0\ X0\ X1) \Rightarrow (k3\_xxreal\_0\ X0\ X1 = X0)) \wedge ((\neg r1\_xxreal\_0\ X0\ X1) \Rightarrow (k3\_xxreal\_0\ X0\ X1 = X1)))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow ((r1\_xxreal\_0\ X1\ X0) \Rightarrow (k4\_xxreal\_0\ X0\ X1 = X0)) \wedge ((\neg r1\_xxreal\_0\ X1\ X0) \Rightarrow (k4\_xxreal\_0\ X0\ X1 = X1)))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(\\(r1\_xxreal\_0\ X0\ X1)\vee(r1\_xxreal\_0\ X1\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow\\(v1\_xreal\_0\ X1)) \tag{9}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_real\_lat))\Rightarrow(\forall X1.\\(m1\_subset\_1\ X1\ (u1\_struct\_0\ k3\_real\_lat))\Rightarrow(k2\_lattices\ k3\_real\_lat\\X0\ (k1\_lattices\ k3\_real\_lat\ X0\ X1) = X0))$$