

# l45\_fuzzy\_2 (TMU- jLFV5GdHU3vzBovAK2D7Ma5RPtjz8b2c)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_square\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 k6\_numbers \\ & X2)) \Rightarrow (r1\_xxreal\_0 (k3\_xcmplx\_0 X0 X2) (k3\_xcmplx\_0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 \\ & X1)) \Rightarrow (k8\_real\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (m1\_subset\_1 \\ & X1 k1\_numbers)) \Rightarrow (k2\_square\_1 X0 X1 = k4\_xxreal\_0 X0 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (m1\_subset\_1 \\ & X1 k1\_numbers)) \Rightarrow (k2\_square\_1 X0 X0 = X0) \end{aligned} \quad (4)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 \\ & X1)) \Rightarrow (m1\_subset\_1 (k8\_real\_1 X0 X1) k1\_numbers) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(m1\_subset\_1 X1 k1\_numbers))\Rightarrow(m1\_subset\_1 (k2\_square\_1 X0 X1) k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0)\Rightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow((r1\_xxreal\_0 X1 X0)\Rightarrow(k4\_xxreal\_0 X0 X1 = X0))\wedge((\neg r1\_xxreal\_0 X1 X0)\Rightarrow(k4\_xxreal\_0 X0 X1 = X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xxreal\_0 X1))\Rightarrow(k8\_real\_1 X0 X1 = k8\_real\_1 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(k4\_xxreal\_0 X0 X1 = k4\_xxreal\_0 X1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v2\_membered X0) \quad (11)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xxreal\_0 X1)) \quad (12)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xxreal\_0 X1)) \quad (13)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1 X2 k1\_numbers)\Rightarrow((r1\_xxreal\_0 k6\_numbers X2)\Rightarrow(k8\_real\_1 X2 (k2\_square\_1 X0 X1) = k2\_square\_1 (k8\_real\_1 X2 X0) (k8\_real\_1 X2 X1))))))$$