

t6_mesfunc5

(TMK5e8AY5WjppnCSB2KzXcuGbMiHgYctrXa)

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Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 k6_numbers \\ & X2)) \Rightarrow (r1_xxreal_0 (k4_xxreal_3 X0 X2) (k4_xxreal_3 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v1_xxreal_0 (k4_xxreal_3 X0 X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\\ & (r1_xxreal_0 X0 X1) \Rightarrow (k3_xxreal_0 X0 X1 = X0)) \wedge ((\neg r1_xxreal_0 X0 \\ & X1) \Rightarrow (k3_xxreal_0 X0 X1 = X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\\ & (r1_xxreal_0 X1 X0) \Rightarrow (k4_xxreal_0 X0 X1 = X0)) \wedge ((\neg r1_xxreal_0 X1 \\ & X0) \Rightarrow (k4_xxreal_0 X0 X1 = X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow ((r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k4_xxreal_3 X0 X1 = k4_xxreal_3 X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(k4_xxreal_0 X0 X1 = k4_xxreal_0 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(k3_xxreal_0 X0 X1 = k3_xxreal_0 X1 X0) \quad (8)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(\forall X2. \\ &(v1_xxreal_0 X2)\Rightarrow((r1_xxreal_0 k6_numbers X2)\Rightarrow((k4_xxreal_3 \\ &X2 (k4_xxreal_0 X0 X1) = k4_xxreal_0 (k4_xxreal_3 X2 X0) (k4_xxreal_3 \\ &X2 X1))\wedge(k4_xxreal_3 X2 (k3_xxreal_0 X0 X1) = k3_xxreal_0 (k4_xxreal_3 \\ &X2 X0) (k4_xxreal_3 X2 X1)))))) \end{aligned}$$