

t1\_rinfsup1  
(TML8iZYtZvHpqxr9rTrcs7X8tFqBHAm9A)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow ((r1\_xxreal\_0 X0 (k2\_xcmplx\_0 X1 X2)) \Leftrightarrow (r1\_xxreal\_0 \\ & (k6\_xcmplx\_0 X0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((\neg \\ & r1\_xxreal\_0 X1 (k4\_xcmplx\_0 X0)) \wedge (\neg r1\_xxreal\_0 X0 X1)) \Leftrightarrow (\neg r1\_xxreal\_0 \\ & X0 (k18\_complex1 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow ((r1\_xxreal\_0 (k2\_xcmplx\_0 X0 X1) X2) \Leftrightarrow (r1\_xxreal\_0 \\ & X0 (k6\_xcmplx\_0 X2 X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ( \\ & k2\_xcmplx\_0 X0 (k4\_xcmplx\_0 X1) = k6\_xcmplx\_0 X0 X1) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 \\ & (k6\_xcmplx\_0 X0 X1)) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge \\ & (v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0)\wedge(v1\_xcmplx\_0 X1))\Rightarrow( k2\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow(\forall X2. \\ &(v1\_xreal\_0 X2)\Rightarrow(((\neg r1\_xxreal\_0 X2 (k6\_xcmplx\_0 X0 X1))\wedge(\neg r1\_xxreal\_0 \\ &(k2\_xcmplx\_0 X0 X1) X2))\Leftrightarrow(\neg r1\_xxreal\_0 X1 (k18\_complex1 (k6\_xcmplx\_0 \\ &X2 X0)))))) \end{aligned}$$