

t15_nat_5 (TMULGniAK- Duu2hoCpaJMsS3WmNgysBXRrsj)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_moebius1 : \iota \Rightarrow \iota$ be given. Let $r1_int_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_nat_d X0 X1) \wedge (r1_nat_d X1 X0)) \Rightarrow (X0 = X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (((X2 \in k3_moebius1 X0) \wedge ((X3 \in k3_moebius1 X1) \wedge (r1_int_2 X0 X1))) \Rightarrow (r1_int_2 X2 X3)))))) \quad (2)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (((r1_nat_d X0 (k3_xcmplx_0 X1 X2)) \wedge (r1_int_2 X1 X0)) \Rightarrow (r1_nat_d X0 X2)))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0) \wedge (v1_int_1 X1)) \Rightarrow ((r1_int_2 X0 X1) \Rightarrow (r1_int_2 X1 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k24_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (v7_ordinal1 (k3_xcmplx_0 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(v1_int_1 (k3_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow((r1_nat_d X0 X1)\Leftrightarrow(\exists X2.(v7_ordinal1 X2)\wedge(X1 = k3_xcmplx_0 X0 X2)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(k24_binop_2 X0 X1 = k24_binop_2 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_int_1 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(\forall X2. \\ &\quad (v7_ordinal1 X2)\Rightarrow(\forall X3.(v7_ordinal1 X3)\Rightarrow(\forall X4.(\\ &\quad v7_ordinal1 X4)\Rightarrow(\forall X5.(v7_ordinal1 X5)\Rightarrow(((X2 \in k3_moebius1 \\ &\quad X0)\wedge((X3 \in k3_moebius1 X1)\wedge((X4 \in k3_moebius1 X0)\wedge((X5 \in k3_moebius1 \\ &\quad X1)\wedge((r1_int_2 X0 X1)\wedge(k24_binop_2 X2 X3 = k24_binop_2 X4 X5))))))\Rightarrow \\ &\quad ((X2 = X4)\wedge(X3 = X5)))))) \end{aligned}$$