

t18_nat_5 (TMycQNWT-
Pvjba7ZGroZY6aNedAPvkhgbzr)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_int_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_moebius1 : \iota \Rightarrow \iota$ be given. Let $k24_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k6_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k3_int_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\neg (\neg r1_xxreal_0 X0 k6_numbers) \wedge (r1_xxreal_0 (k6_nat_d X0 X1) k6_numbers))) \quad (1)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_nat_d X0 X1) \Rightarrow (k6_nat_d X0 X1 = X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in k3_moebius1 X0) \Leftrightarrow ((\neg r1_xxreal_0 X1 k6_numbers) \wedge (r1_nat_d X1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v7_ordinal1 X1) \wedge (\neg v1_xboole_0 X1)) \Rightarrow (\forall X2.((v7_ordinal1 X2) \wedge (\neg v1_xboole_0 X2)) \Rightarrow ((r1_int_2 X1 X2) \Rightarrow (k6_nat_d X0 (k24_binop_2 X1 X2) = k24_binop_2 (k6_nat_d X0 X1) (k6_nat_d X0 X2)))))) \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k6_nat_d X0 X1 = k3_int_2 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(k24_binop_2\ X0\ X1 = k3_xcmplx_0\ X0\ X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(v7_ordinal1\ (k3_xcmplx_0\ X0\ X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1\ X0)\wedge(v1_int_1\ X1))\Rightarrow(v7_ordinal1\ (k3_int_2\ X0\ X1)) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\forall X2. \\ &(v7_ordinal1\ X2)\Rightarrow((X2 = k3_int_2\ X0\ X1)\Leftrightarrow((r1_nat_d\ X2\ X0)\wedge((r1_nat_d \\ &X2\ X1)\wedge(\forall X3.(v7_ordinal1\ X3)\Rightarrow(((r1_nat_d\ X3\ X0)\wedge(r1_nat_d \\ &X3\ X1))\Rightarrow(r1_nat_d\ X3\ X2)))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_int_1\ X0) \quad (11)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((v7_ordinal1\ X1)\wedge(\neg v1_xboole_0\ X1))\Rightarrow(\forall X2.((v7_ordinal1\ X2)\wedge(\neg v1_xboole_0 \\ &X2))\Rightarrow(\neg(r1_int_2\ X1\ X2)\wedge((X0 \in k3_moebius1\ (k24_binop_2\ X1\ X2))\wedge \\ &(\forall X3.(v7_ordinal1\ X3)\Rightarrow(\forall X4.(v7_ordinal1\ X4)\Rightarrow(\neg(X3 \in k3_moebius1\ X1)\wedge((X4 \in k3_moebius1\ X2)\wedge(X0 = k24_binop_2 \\ &X3\ X4)))))))))) \end{aligned}$$