t25_int_4 (TMXUF11Ji9C1BdTnHWDjRQjkL766hRqqC7H)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_int\_2 : \iota \Rightarrow o$ be given. Let $r1\_int\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $v1\_int\_1 : \iota \Rightarrow o$ be given. Let $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (r1\_int\_2\ np\_\_1\ X0) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.\ (v7\_ordinal1\ X2) \Rightarrow ((r1\_nat\_d\ X0\ X1) \Rightarrow (r1\_nat\_d\ X0\ (k3\_xcmplx\_0\ X1\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\neg(v1\_xboole\_0\ X0) \wedge ((X0 \neq X1) \wedge (v1\_xboole\_0\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.\ (v7\_ordinal1\ X2) \Rightarrow ((r1\_xxreal\_0\ X1\ X2) \Rightarrow (r1\_nat\_d\ (k1\_newton\ X0\ X1)\ (k1\_newton\ X0\ X2))))) \tag{4}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow ((\neg(\neg(X0 = k6\_numbers) \wedge (X1 \neq k6\_numbers)) \wedge (k1\_newton\ X0\ X1 = k6\_numbers)) \wedge (\neg(k1\_newton\ X0\ X1 \neq k6\_numbers) \wedge ((X0 = k6\_numbers) \wedge (X1 \neq k6\_numbers))))) \tag{5}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((r1\_nat\_d\ X1\ X0)\Rightarrow((r1\_xxreal\_0\ X0\ k6\_numbers)\vee(r1\_xxreal\_0\ X1\ X0)))))\tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((r1\_nat\_d\ X0\ k6\_numbers)\wedge(r1\_nat\_d\ np\_\_1\ X0))\tag{7}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(r1\_xxreal\_0\ k6\_numbers\ (k3\_xcmplx\_0\ X0\ X0))\tag{8}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k1\_newton\ X0\ np\_\_1 = X0)\tag{9}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k1\_newton\ X0\ k6\_numbers = np\_\_1)\tag{10}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k6\_xcmplx\_0\ X0\ k6\_numbers = X0)\tag{11}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((X0\in X1)\Leftrightarrow(\neg r1\_xxreal\_0\ X1\ X0)))\tag{12}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\neg(k6\_numbers\neq X0)\wedge(r1\_xxreal\_0\ X0\ k6\_numbers))\tag{13}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((\neg r1\_xxreal\_0\ (k2\_xcmplx\_0\ X0\ X1)\ X0)\Leftrightarrow(r1\_xxreal\_0\ np\_\_1\ X1)))\tag{14}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(\forall X2.(v1\_int\_1\ X2)\Rightarrow(\neg(X0\neq k6\_numbers)\wedge((\neg r1\_int\_1\ (k3\_int\_2\ X1\ X0)\ X2)\wedge(\exists X3.(v1\_int\_1\ X3)\wedge(k6\_int\_1\ (k6\_xcmplx\_0\ (k3\_xcmplx\_0\ X1\ X3)\ X2)\ X0 = k6\_numbers))))))\tag{15}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((r1\_nat\_d\ X0\ np\_\_1)\Rightarrow(X0 = np\_\_1)) \tag{16}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.\ (v7\_ordinal1\ X2)\Rightarrow(((r1\_nat\_d\ X0\ (k3\_xcmplx\_0\ X1\ X2))\wedge(r1\_int\_2\ X1\ X0))\Rightarrow(r1\_nat\_d\ X0\ X2)))) \tag{17}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.\ (v7\_ordinal1\ X2)\Rightarrow((r1\_xxreal\_0\ X0\ X1)\Rightarrow(r1\_xxreal\_0\ X0\ (k2\_xcmplx\_0\ X1\ X2))))) \tag{18}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\neg\ (r1\_xxreal\_0\ X0\ X1)\wedge(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(X1\neq k2\_xcmplx\_0\ X0\ X2)))) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow((r1\_int\_2\ X0\ X1)\Rightarrow(r1\_int\_2\ X1\ X0)) \tag{20}$$

Assume the following.

$$k3\_xcmplx\_0\ np\_\_1\ np\_\_1 = np\_\_1 \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(r1\_nat\_d\ X0\ X0) \tag{22}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow((r1\_nat\_d\ X0\ X1)\Leftrightarrow(r1\_int\_1\ X0\ X1)) \tag{23}$$

Assume the following.

$$\exists X0.(\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X0) \tag{24}$$

Assume the following.

$$\exists X0.v1\_xboole\_0\ X0 \tag{25}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(((r1\_xxreal\_0\ X0\ X1)\wedge(r1\_xxreal\_0\ X1\ X0))\Rightarrow(X0 = X1))) \tag{26}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.\ (v7\_ordinal1\ X2)\Rightarrow((r1\_xxreal\_0\ (k2\_xcmplx\_0\ X0\ X1)\ X2)\Rightarrow((r1\_xxreal\_0\ X0\ X2)\wedge(r1\_xxreal\_0\ X1\ X2))))) \tag{27}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((\ r1\_int\_1\ X1\ X0)\Rightarrow((r1\_xxreal\_0\ X0\ k6\_numbers)\vee(r1\_xxreal\_0\ X1\ X0)))) \tag{28}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(v1\_xboole\_0\ (k6\_xcmplx\_0\ X0\ X0)) \tag{29}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(\ v1\_xcmplx\_0\ (k6\_xcmplx\_0\ X0\ X1)) \tag{30}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(\ v7\_ordinal1\ (k1\_newton\ X0\ X1)) \tag{31}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v1\_int\_1\ (k6\_xcmplx\_0\ X0\ X1)) \tag{32}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v1\_int\_1\ (k3\_xcmplx\_0\ X0\ X1)) \tag{33}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(v1\_int\_1\ (k1\_newton\ X0\ X1)) \tag{34}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X0))\wedge(v7\_ordinal1\ X1))\Rightarrow(\neg v1\_xboole\_0\ (k1\_newton\ X0\ X1)) \tag{35}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v1\_int\_1\ (k6\_int\_1\ X0\ X1)) \tag{36}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow((X2 = k3\_int\_2\ X0\ X1)\Leftrightarrow((r1\_nat\_d\ X2\ X0)\wedge((r1\_nat\_d\ X2\ X1)\wedge(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(((r1\_nat\_d\ X3\ X0)\wedge(r1\_nat\_d\ X3\ X1))\Rightarrow(r1\_nat\_d\ X3\ X2)))))))) \tag{37}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v1\_int\_2\ X0)\Leftrightarrow((\neg r1\_xxreal\_0\ X0\ np\_\_1)\wedge(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\neg(r1\_int\_1\ X1\ X0)\wedge((X1\neq np\_\_1)\wedge(X1\neq X0)))))) \tag{38}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow((r1\_int\_2\ X0\ X1)\Leftrightarrow(k3\_int\_2\ X0\ X1 = np\_\_1))) \tag{39}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow((X2 = k3\_int\_2\ X0\ X1)\Leftrightarrow((r1\_int\_1\ X2\ X0)\wedge((r1\_int\_1\ X2\ X1)\wedge(\forall X3.(v1\_int\_1\ X3)\Rightarrow(((r1\_int\_1\ X3\ X0)\wedge(r1\_int\_1\ X3\ X1))\Rightarrow(r1\_int\_1\ X3\ X2)))))))) \tag{40}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \tag{41}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v7\_ordinal1\ X0) \tag{42}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \tag{43}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \tag{44}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \tag{45}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_int\_1\ X0) \tag{46}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(((v1\_int\_2\ X1)\wedge(r1\_int\_2\ X1\ X2))\Rightarrow((r1\_xxreal\_0\ X0\ k6\_numbers)\vee(\forall X3.(v1\_int\_1\ X3)\Rightarrow(k6\_int\_1\ (k6\_xcmplx\_0\ (k3\_xcmplx\_0\ X1\ X3)\ X2)\ (k1\_newton\ X1\ X0)\neq k6\_numbers))))))$$