l52_int_4 (TMHVE7xxXDuyJrRcfEp8L48GFqxXEwJ6KnD)

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Let $v1\_int\_1 : \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $r1\_int\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_0 : \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_int\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0\ X1) \Rightarrow (\forall X2.\ (v1\_xcmplx\_0\ X2) \Rightarrow ((k3\_xcmplx\_0\ X1\ X0 = k3\_xcmplx\_0\ X2\ X0) \Rightarrow ((X0 = k6\_numbers) \vee (X1 = X2))))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (\forall X1.(v1\_int\_1\ X1) \Rightarrow (((X0 = k6\_numbers) \wedge (X1 = k6\_numbers)) \Leftrightarrow (k3\_int\_2\ X0\ X1 = k6\_numbers))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k3\_xcmplx\_0\ X0\ k6\_numbers = k6\_numbers) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (\forall X1.(v1\_int\_1\ X1) \Rightarrow (\neg(\neg(X0 = k6\_numbers) \wedge (X1 = k6\_numbers)) \wedge (\forall X2.(v1\_int\_1\ X2) \Rightarrow (\forall X3.\ (v1\_int\_1\ X3) \Rightarrow (\neg(X0 = k3\_xcmplx\_0\ (k3\_int\_2\ X0\ X1)\ X2) \wedge ((X1 = k3\_xcmplx\_0\ (k3\_int\_2\ X0\ X1)\ X3) \wedge (r1\_int\_2\ X2\ X3)))))))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (\forall X1.(v1\_int\_1\ X1) \Rightarrow (r1\_int\_1\ (k3\_int\_2\ X0\ X1)\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow((r1\_int\_2\ X0\ X1)\Rightarrow(r1\_int\_2\ X1\ X0)) \tag{7}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{8}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{9}$$

Assume the following.

$$\exists X0.(v1\_xboole\_0\ X0)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))) \tag{10}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow((r1\_int\_1\ X0\ X1)\Rightarrow(X1 = k3\_xcmplx\_0\ (k5\_int\_1\ X1\ X0)\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(v1\_xreal\_0\ (k7\_xcmplx\_0\ X0\ X1)) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v1\_int\_1\ (k3\_xcmplx\_0\ X0\ X1)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v7\_ordinal1\ (k3\_int\_2\ X0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_int\_1\ (k1\_int\_1\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(k5\_int\_1\ X0\ X1 = k1\_int\_1\ (k7\_xcmplx\_0\ X0\ X1))) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(k3\_xcmplx\_0\ X0\ X1 = k3\_xcmplx\_0\ X1\ X0) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(k3\_int\_2\ X0\ X1 = k3\_int\_2\ X1\ X0) \tag{18}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \tag{19}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \tag{20}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_int\_1\ X0) \tag{21}$$

Theorem 1

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow((\neg(X0 = k6\_numbers)\wedge(X1 = k6\_numbers))\Rightarrow(r1\_int\_2\ (k5\_int\_1\ X0\ (k3\_int\_2\ X0\ X1))\ (k5\_int\_1\ X1\ (k3\_int\_2\ X0\ X1))))))$$