# t12_int_1 (TMS6D9yDC4RcbAbPLHZRGeGPc9dancZLfFn)

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Let $v1\_int\_1 : \iota \Rightarrow o$ be given. Let $r2\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ 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 $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xcmplx\_0 : \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_0 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k6\_xcmplx\_0\ X0\ k6\_numbers = X0) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0\ X1) \Rightarrow (( X0 = k2\_xcmplx\_0\ X0\ X1) \Rightarrow (X1 = k6\_numbers))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k2\_xcmplx\_0\ X0\ k6\_numbers = X0) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k3\_xcmplx\_0\ X0\ (k4\_xcmplx\_0\ np\_\_1) = k4\_xcmplx\_0\ X0) \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0) \wedge (v1\_xcmplx\_0\ X1)) \Rightarrow ( k2\_xcmplx\_0\ X0\ (k4\_xcmplx\_0\ X1) = k6\_xcmplx\_0\ X0\ X1) \tag{6}$$

Assume the following.

$$(m2\_subset\_1\ np\_\_0\ k1\_numbers\ k5\_numbers)\wedge((m1\_subset\_1\ np\_\_0\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_0\ k1\_numbers)) \tag{7}$$

Assume the following.

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

Assume the following.

$$k6\_xcmplx\_0\ np\_\_0\ np\_\_1 = k4\_xcmplx\_0\ np\_\_1 \tag{9}$$

Assume the following.

$$k2\_xcmplx\_0\ np\_\_1\ np\_\_0 = np\_\_1 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(r1\_int\_1\ X0\ X0) \tag{11}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{12}$$

Assume the following.

$$\exists X0.(m1\_subset\_1\ X0\ k1\_numbers)\wedge((v1\_xxreal\_0\ X0)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xreal\_0\ X0)\wedge(v1\_int\_1\ X0)))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1\ X0)\wedge(v1\_int\_1\ X1))\Rightarrow(v1\_int\_1\ (k6\_xcmplx\_0\ X0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(\forall X2.(v1\_int\_1\ X2)\Rightarrow((r2\_int\_1\ X0\ X1\ X2)\Leftrightarrow(\exists X3.(v1\_int\_1\ X3)\wedge(k3\_xcmplx\_0\ X2\ X3 = k6\_xcmplx\_0\ X0\ X1))))) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(\forall X2.(v1\_int\_1\ X2)\Rightarrow((r2\_int\_1\ X0\ X1\ X2)\Leftrightarrow(r1\_int\_1\ X2\ (k6\_xcmplx\_0\ X0\ X1))))) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(k2\_xcmplx\_0\ X0\ X1 = k2\_xcmplx\_0\ X1\ X0) \tag{18}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{19}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v7\_ordinal1\ X0) \tag{20}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \tag{21}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \tag{22}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \tag{23}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_int\_1\ X0) \tag{24}$$

**Theorem 1**

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow((r2\_int\_1\ X0\ k6\_numbers\ X0)\wedge(r2\_int\_1\ k6\_numbers\ X0\ X0))$$