

t2\_nat\_1 (TML-  
GDzZ1eaK5jjh9V6qEPFgcRwR3UcgBNV9)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xreal\_0 X0 X1) \wedge (v3\_xreal\_0 X1)) \Rightarrow (v3\_xreal\_0 X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xreal\_0 X0 X1) \wedge (v2\_xreal\_0 X0)) \Rightarrow (v2\_xreal\_0 X1))) \quad (3)$$

Assume the following.

$$((v2\_xreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (4)$$

Assume the following.

$$\forall X0 : \iota \Rightarrow o. ((X0 k6\_numbers) \wedge (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X0 X1) \Rightarrow (X0 (k1\_nat\_1 X1 np\_1))))) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (r1\_xreal\_0 X0 X0) \quad (6)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow (k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (8)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k2\_xcmplx\_0 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))\wedge((\neg v3\_xxreal\_0 X1)\wedge(v1\_xreal\_0 X1)))\Rightarrow(v2\_xxreal\_0 (k2\_xcmplx\_0 X1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow((r1\_xxreal\_0 X0 X1)\vee(r1\_xxreal\_0 X1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v3\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v2\_xxreal\_0 X0))) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v2\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0))) \quad (15)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (17)$$

**Theorem 1**  $\forall X0.(v7\_ordinal1 X0)\Rightarrow(r1\_xxreal\_0 k6\_numbers X0)$ .