

## t9\_nat\_2

(TMKcX4HVdW5oxcmUqdwK1UaYvszGS5RTMwW)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (r1\_xxreal\_0 X1 (k6\_xcmplx\_0 X1 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\neg(k6\_numbers \neq X0) \wedge (r1\_xxreal\_0 X0 k6\_numbers)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k7\_nat\_d X0 X1 = k1\_xreal\_0 X0 X1) \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 k6\_numbers (k6\_xcmplx\_0 X0 X1)) \Rightarrow (k1\_xreal\_0 X0 X1 = k6\_xcmplx\_0 X0 X1)) \wedge ((\neg r1\_xxreal\_0 k6\_numbers (k6\_xcmplx\_0 X0 X1)) \Rightarrow (k1\_xreal\_0 X0 X1 = k6\_numbers)))) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (7)$$

**Theorem 1**

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge (v7\_ordinal1 X0)) \Rightarrow (\forall X1. \\ ((\neg v1\_xboole\_0 X1) \wedge (v7\_ordinal1 X1)) \Rightarrow (\neg r1\_xreal\_0 X0 (k7\_nat\_d \\ X0 X1)))$$