

## t16\_nat\_d

(TMLz7mXGMHeDFcRQXnX4ebT1ZSfB8NDJqXp)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 k6\_numbers = X0) \quad (1)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k4\_nat\_d X0 X1 = k6\_int\_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k2\_nat\_d X0 X1 = k6\_int\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k3\_xcmplx\_0 X0 X1)) \quad (5)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (v7\_ordinal1 (k2\_xcmplx\_0 X0 X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1\ X2) \Rightarrow ((X2 = k2\_nat\_d\ X0\ X1) \Leftrightarrow (\neg(\forall X3.(v7\_ordinal1 \\ & X3) \Rightarrow (\neg(X0 = k2\_xcmplx\_0\ (k3\_xcmplx\_0\ X1\ X3)\ X2) \wedge (\neg r1\_xreal\_0 \\ & X1\ X2)))) \wedge (\neg(X2 = k6\_numbers) \wedge (X1 = k6\_numbers)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v7\_ordinal1\ X0) \quad (9)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (v1\_xreal\_0\ X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1\ X2) \Rightarrow ((k4\_nat\_d\ X1\ X0 = k6\_numbers) \Rightarrow ((X0 = k6\_numbers) \vee \\ & ((r1\_xreal\_0\ X0\ X2) \vee (k4\_nat\_d\ (k2\_xcmplx\_0\ X1\ X2)\ X0 = X2)))))) \end{aligned}$$