t31_nat_d (TM-NXA9S6y4CrZkmhZ5BJkZHXgF5QaqTq6ML)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k5\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (r1\_nat\_d\ X0\ X0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (k5\_nat\_d\ X0\ X1 = k2\_int\_2\ X0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.(v7\_ordinal1\ X2) \Rightarrow ((X2 = k2\_int\_2\ X0\ X1) \Leftrightarrow ((r1\_nat\_d\ X0\ X2) \wedge ((r1\_nat\_d\ X1\ X2) \wedge (\forall X3.(v7\_ordinal1\ X3) \Rightarrow (((r1\_nat\_d\ X0\ X3) \wedge (r1\_nat\_d\ X1\ X3)) \Rightarrow (r1\_nat\_d\ X2\ X3)))))))) \tag{3}$$

Theorem 1 $\forall X0.(v7\_ordinal1\ X0) \Rightarrow (k5\_nat\_d\ X0\ X0 = X0)$.