t43_newton (TMR8KXXmLu5mh44bko97ZzZVBQzZ4gDHQMy)

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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 $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k2\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. (v7\_ordinal1\ X2) \Rightarrow (((r1\_nat\_d\ X0\ X1) \wedge (r1\_nat\_d\ X1\ X2)) \Rightarrow (r1\_nat\_d\ X0\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (r1\_nat\_d\ X0\ X0) \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (k5\_nat\_d\ X0\ X1 = k2\_int\_2\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (m1\_subset\_1\ (k5\_nat\_d\ X0\ X1)\ k5\_numbers) \tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. (v7\_ordinal1\ X2) \Rightarrow ((X2 = k2\_int\_2\ X0\ X1) \Leftrightarrow ((r1\_nat\_d\ X0\ X2) \wedge ((r1\_nat\_d\ X1\ X2) \wedge (\forall X3.(v7\_ordinal1\ X3) \Rightarrow (((r1\_nat\_d\ X0\ X3) \wedge (r1\_nat\_d\ X1\ X3)) \Rightarrow (r1\_nat\_d\ X2\ X3)))))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(\\ k5\_nat\_d\ X0\ X1 = k5\_nat\_d\ X1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{9}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.\\ (v7\_ordinal1\ X2)\Rightarrow(k5\_nat\_d\ X0\ (k5\_nat\_d\ X1\ X2) = k5\_nat\_d\ (k5\_nat\_d\\ X0\ X1)\ X2)))$$