

t48_newton (TM-
SRg7mJqRAC5xKP5KzKWYTHhJZzL5N6ahi)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_int_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_nat_d X0 X1) \wedge (r1_nat_d X1 X0)) \Rightarrow (X0 = X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (((r1_nat_d X0 X1) \wedge (r1_nat_d X1 X2)) \Rightarrow (r1_nat_d X0 X2)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k6_nat_d X0 X1 = k3_int_2 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0) \wedge (v1_int_1 X1)) \Rightarrow (v7_ordinal1 (k3_int_2 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow ((X2 = k3_int_2 X0 X1) \Leftrightarrow ((r1_nat_d X2 X0) \wedge ((r1_nat_d X2 X1) \wedge (\forall X3.(v7_ordinal1 X3) \Rightarrow (((r1_nat_d X3 X0) \wedge (r1_nat_d X3 X1)) \Rightarrow (r1_nat_d X3 X2)))))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k6_nat_d X0 X1 = k6_nat_d X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (7)$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ (v7_ordinal1\ X2) \Rightarrow (k6_nat_d\ X0\ (k6_nat_d\ X1\ X2) = k6_nat_d\ (k6_nat_d \\ X0\ X1)\ X2)))$$