

t49_pepin
(TMMPmKdEaJLRaSrbbBu3jmsdE1nJfv6vZeR)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $r1_int_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pepin : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $r1_int_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 X2) \Rightarrow (((k4_nat_d (k1_newton X1 X2) X0 = np_1) \wedge (r1_int_2 \\ & X1 X0)) \Rightarrow ((r1_xreal_0 X0 np_1) \vee (r1_nat_d (k3_pepin X1 X0) X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ & (v1_int_2 X1) \wedge (r1_int_2 X0 X1)) \Rightarrow (k4_nat_d (k1_newton X0 (k7_nat_d \\ & X1 np_1)) X1 = np_1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (m1_subset_1 (k7_nat_d X0 X1) k5_numbers) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_int_2 X0) \Leftrightarrow ((\neg r1_xreal_0 X0 \\ & np_1) \wedge (\forall X1.(v7_ordinal1 X1) \Rightarrow (\neg (r1_int_1 X1 X0) \wedge ((X1 \neq \\ & np_1) \wedge (X1 \neq X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ (v1_int_2 X0) \wedge (r1_int_2 X1 X0)) \Rightarrow (r1_nat_d (k3_pepin X1 X0) (k7_nat_d \\ X0 np_1)))) \end{aligned}$$