

## t36\_nat\_3

(TMNn8e4eBXTpN6T6vzxeeHfEwP36Sib5w1s)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k13\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k12\_nat\_3 : \iota \Rightarrow \iota$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k11\_nat\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_newton : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(X1 \in k13\_pre\_poly (k12\_nat\_3 X0)) \Rightarrow ((v7\_ordinal1 X1) \wedge (v1\_int\_2 X1))) \quad (1)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X0 \neq np\_1) \Rightarrow (((X1 \neq k6\_numbers) \wedge (k11\_nat\_3 X1 X0 = k6\_numbers)) \Leftrightarrow (\neg r1\_nat\_d X0 X1)))) \quad (2)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_1 \quad (3)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v1\_relat\_1 (k12\_nat\_3 X0)) \wedge ((v4\_relat\_1 (k12\_nat\_3 X0) k10\_newton) \wedge ((v1\_funct\_1 (k12\_nat\_3 X0)) \wedge (v1\_partfun1 (k12\_nat\_3 X0) k10\_newton)))) \quad (4)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k10\_newton) \wedge ((v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 k10\_newton)))) \Rightarrow ((X1 = k12\_nat\_3 X0) \Leftrightarrow (\forall X2.((v7\_ordinal1 X2) \wedge (v1\_int\_2 X2)) \Rightarrow (k1\_funct\_1 X1 X2 = k11\_nat\_3 X0 X2)))) \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(X1 = k13\_pre\_poly X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (k1\_funct\_1 X0 X2 \neq k6\_numbers))) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v1\_int\_2 X0) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 np\_1) \wedge (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\neg(r1\_int\_1 X1 X0) \wedge ((X1 \neq np\_1) \wedge (X1 \neq X0))))))) \quad (7)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X0 \in k13\_pre\_poly (k12\_nat\_3 X1)) \Rightarrow (r1\_nat\_d X0 X1)))$$