t37_nat_3 (TMRropug-wwhPM8RLBg4z4A5qgVivvGZDH8P)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_int\_2 : \iota \Rightarrow o$ be given. Let $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k13\_pre\_poly : \iota \Rightarrow \iota$ be given. Let $k12\_nat\_3 : \iota \Rightarrow \iota$ 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 $k1\_xboole\_0 : \iota$ 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. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow ((X0 \neq np\_\_1) \Rightarrow (((X1 \neq k6\_numbers) \wedge (k11\_nat\_3\ X1\ X0 = k6\_numbers)) \Leftrightarrow (\neg r1\_nat\_d\ X0\ X1)))) \tag{1}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\neg v1\_int\_2\ np\_\_1 \tag{3}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v1\_relat\_1\ (k12\_nat\_3\ X0)) \wedge ((v4\_relat\_1\ (k12\_nat\_3\ X0)\ k10\_newton) \wedge ((v1\_funct\_1\ (k12\_nat\_3\ X0)) \wedge (v1\_partfun1\ (k12\_nat\_3\ X0)\ k10\_newton)))) \tag{5}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ k10\_newton) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ k10\_newton)))) \Rightarrow ((X1 = k12\_nat\_3\ X0) \Leftrightarrow (\forall X2.((v7\_ordinal1\ X2) \wedge (v1\_int\_2\ X2)) \Rightarrow (k1\_funct\_1\ X1\ X2 = k11\_nat\_3\ X0\ X2)))) \tag{6}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(X1 = k13\_pre\_poly\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(k1\_funct\_1\ X0\ X2\neq k6\_numbers))) \tag{7}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(((v7\_ordinal1\ X1)\wedge(v1\_int\_2\ X1))\wedge(r1\_nat\_d\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X0)\vee(X1 \in k13\_pre\_poly\ (k12\_nat\_3\ X0)))))$$