

l93\_pepin  
(TMWRH57keTTY5tKsMSdARy5JbPf1s58PZR1)

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Let  $k4\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k4\_pepin : \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_256 : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_65537 : \iota$  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  $np\_65536 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k1\_newton X0 np\_1 = X0) \quad (1)$$

Assume the following.

$$k4\_pepin np\_4 = k2\_nat\_1 (k4\_nat\_1 np\_256 np\_256) np\_1 \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_65537) \wedge (m2\_subset\_1 np\_65537 k1\_numbers \\ & k5\_numbers)) \wedge ((m1\_subset\_1 np\_65537 k5\_numbers) \wedge (m1\_subset\_1 \\ & np\_65537 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_65536) \wedge (m2\_subset\_1 np\_65536 k1\_numbers \\ & k5\_numbers)) \wedge ((m1\_subset\_1 np\_65536 k5\_numbers) \wedge (m1\_subset\_1 \\ & np\_65536 k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_256) \wedge (m2\_subset\_1 \ np\_256 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_256 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_256 \ k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & (m2\_subset\_1 \ np\_0 \ k1\_numbers \ k5\_numbers) \wedge ((m1\_subset\_1 \ np\_0 \\ & \quad k5\_numbers) \wedge (m1\_subset\_1 \ np\_0 \ k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$k4\_xcmplx\_0 \ (k4\_xcmplx\_0 \ np\_3) = np\_3 \quad (9)$$

Assume the following.

$$k3\_xcmplx\_0 \ np\_65537 \ np\_0 = np\_0 \quad (10)$$

Assume the following.

$$k3\_xcmplx\_0 \ np\_256 \ np\_256 = np\_65536 \quad (11)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_65536 \ np\_1 = np\_65537 \quad (12)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_0 \ np\_3 = np\_3 \quad (13)$$

Assume the following.

$$\neg r1\_xxreal\_0 \ np\_65537 \ np\_3 \quad (14)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (v7\_ordinal1 \ X1)) \Rightarrow ( \\ & \quad k4\_nat\_d \ X0 \ X1 = k6\_int\_1 \ X0 \ X1) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k5\_numbers) \wedge (v7\_ordinal1 \\ & \quad X1)) \Rightarrow (k4\_nat\_1 \ X0 \ X1 = k3\_xcmplx\_0 \ X0 \ X1) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(k2\_nat\_d\ X0\ X1 = k6\_int\_1\ X0\ X1) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(k2\_nat\_1\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(m1\_subset\_1\ X1\ k5\_numbers))\Rightarrow(k13\_newton\ X0\ X1 = k1\_newton\ X0\ X1) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0))\wedge(v1\_xreal\_0\ (k4\_xcmplx\_0\ X0))) \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2. \\ (v7\_ordinal1\ X2)\Rightarrow((X2 = k2\_nat\_d\ X0\ X1)\Leftrightarrow(\neg(\forall X3.(v7\_ordinal1 \\ X3)\Rightarrow(\neg(X0 = k2\_xcmplx\_0\ (k3\_xcmplx\_0\ X1\ X3)\ X2)\wedge(\neg r1\_xxreal\_0 \\ X1\ X2))))\wedge(\neg(X2 = k6\_numbers)\wedge(X1 = k6\_numbers)))))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (24)$$

**Theorem 1**  $k4\_nat\_d\ (k13\_newton\ np\_3\ np\_1)\ (k4\_pepin\ np\_4) = np\_3.$