

# t39\_prepower (TMUNWG- LyR66AGjf9HyjAep2GQgNa6YjVWXV)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_prepower : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k1\_int\_2 : \iota \Rightarrow \iota$  be given. Let  $k16\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k5\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 X1) \wedge ((\neg v2\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X1)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (r1\_xxreal\_0 (k1\_newton X0 X1) k6\_numbers))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v2\_xxreal\_0 X0)) \Rightarrow (v2\_xxreal\_0 X1))) \quad (4)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (k1\_int\_2 X0 = k16\_complex1 X0) \quad (7)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_int_1 X1)) \Rightarrow (v1_xreal_0 (k4_prepower X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (v1_xreal_0 (k1_newton X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.((v2_xxreal_0 X0) \wedge (v1_xreal_0 X0)) \Rightarrow ((v1_xcmplx_0 (k5_xcmplx_0 X0)) \wedge (v2_xxreal_0 (k5_xcmplx_0 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((v7_ordinal1 (k16_complex1 X0)) \wedge (v1_xreal_0 (k16_complex1 X0))) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow (((r1_xxreal_0 \\ k6_numbers X1) \Rightarrow (k4_prepower X0 X1 = k1_newton X0 (k1_int_2 X1))) \wedge \\ ((\neg r1_xxreal_0 k6_numbers X1) \Rightarrow (k4_prepower X0 X1 = k5_xcmplx_0 \\ (k1_newton X0 (k1_int_2 X1))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.((v1_xboole_0 X0) \wedge (v1_xxreal_0 X0)) \Rightarrow ((v1_xxreal_0 X0) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (18)$$

**Theorem 1**

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 k6_numbers) \wedge (r1_xxreal_0 (k4_prepower X0 X1) k6_numbers)))$$