

t24_absvalue (TMWawuLFS-
bkZV99Vttt6cPPWKzA7Vvq87GL)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_absvalue : \iota \Rightarrow \iota$ be given. Let $k13_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ 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 $np_0 : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k13_complex1 np_1 (k1_absvalue X0) = k1_absvalue (k13_complex1 np_1 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (4)$$

Assume the following.

$$k4_xcmplx_0 (k4_xcmplx_0 np_1) = np_1 \quad (5)$$

Assume the following.

$$k4_xcmplx_0 np_0 = np_0 \quad (6)$$

Assume the following.

$$k7_xcmplx_0 np_1 (k4_xcmplx_0 np_1) = k4_xcmplx_0 np_1 \quad (7)$$

Assume the following.

$$k7_xcmplx_0 \text{ np_1 } np_1 = np_1 \quad (8)$$

Assume the following.

$$r1_xxreal_0 \text{ np_0 } np_0 \quad (9)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 \text{ X0 } k1_numbers) \Rightarrow (k1_real_1 \text{ X0 } = k4_xcmplx_0 \text{ X0}) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 \text{ X0}) \wedge (v1_xcmplx_0 \text{ X1})) \Rightarrow (k13_complex1 \text{ X0 } X1 = k7_xcmplx_0 \text{ X0 } X1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 \text{ X0}) \wedge (v1_xreal_0 \text{ X1})) \Rightarrow (v1_xreal_0 (k7_xcmplx_0 \text{ X0 } X1)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \text{ X0}) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 \text{ X0})) \wedge (v1_xreal_0 (k4_xcmplx_0 \text{ X0}))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_int_1 \text{ X0}) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 \text{ X0})) \wedge (v1_int_1 (k4_xcmplx_0 \text{ X0}))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v3_xxreal_0 \text{ X0}) \wedge (v1_xreal_0 \text{ X0})) \wedge ((\neg v3_xxreal_0 \text{ X1}) \wedge (v1_xreal_0 \text{ X1}))) \Rightarrow (\neg v3_xxreal_0 (k7_xcmplx_0 \text{ X0 } X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v3_xxreal_0 \text{ X0}) \wedge (v1_xreal_0 \text{ X0})) \wedge ((\neg v2_xxreal_0 \text{ X1}) \wedge (v1_xreal_0 \text{ X1}))) \Rightarrow (\neg v2_xxreal_0 (k7_xcmplx_0 \text{ X0 } X1)) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v3_xxreal_0 X0) \wedge (v1_xxreal_0 X0)) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (\neg v2_xxreal_0 (k4_xcmplx_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (((\neg r1_xxreal_0 X0 \ k6_numbers) \Rightarrow (k1_absvalue X0 = np_1)) \wedge (((\neg r1_xxreal_0 \ k6_numbers X0) \Rightarrow (k1_absvalue X0 = k1_real_1 \ np_1)) \wedge (((r1_xxreal_0 X0 \ k6_numbers) \wedge (r1_xxreal_0 \ k6_numbers X0)) \Rightarrow (k1_absvalue X0 = k6_numbers)))) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (23)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v3_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v2_xxreal_0 X0))) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (27)$$

Theorem 1

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (k1_absvalue X0 = k1_absvalue (k13_complex1 \ np_1 X0))$$