

t17_absvalue
(TMbdzgSAbhvCPxx7HzeNB285P47VSZf37oG)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_absvalue : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ 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 $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k16_complex1 : \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_square_1 : \iota \Rightarrow \iota$ be given. Let $k3_square_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $c5_xreal_0 : \iota$ be given. Let $k1_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $c3_xreal_0 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((X0 = k6_numbers) \Leftrightarrow (k18_complex1 X0 = k6_numbers)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 (k4_xcmplx_0 np_1) = k4_xcmplx_0 X0) \quad (3)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (4)$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \quad (5)$$

Assume the following.

$$k3_xcmplx_0 \ np_0 \ np_0 = np_0 \quad (6)$$

Assume the following.

$$k6_xcmplx_0 \ np_1 \ np_2 = k4_xcmplx_0 \ np_1 \quad (7)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ (k4_xcmplx_0 \ np_1) = np_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k1_numbers)\wedge(v1_xreal_0 \ X1))\Rightarrow(k8_real_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers)\Rightarrow(k1_real_1 \ X0 = k4_xcmplx_0 \ X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0)\Rightarrow(k18_complex1 \ X0 = k16_complex1 \ X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0)\Rightarrow(k17_complex1 \ X0 = k16_complex1 \ X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0)\Rightarrow(k6_square_1 \ (k3_square_1 \ X0) = k17_complex1 \ X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0)\Rightarrow(\forall X1.(v1_xreal_0 \ X1)\Rightarrow(((r1_xxreal_0 \ X0 \ X1)\wedge(r1_xxreal_0 \ X1 \ X0))\Rightarrow(X0 = X1))) \quad (14)$$

Assume the following.

$$(c5_xreal_0 = k4_xcmplx_0 \ np_1)\wedge(k1_arytm_0 \ c3_xreal_0 \ c5_xreal_0 = k6_numbers) \quad (15)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ (k4_xcmplx_0 \ np_1) = k6_numbers \quad (16)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0)\Rightarrow(k4_xcmplx_0 \ (k4_xcmplx_0 \ X0) = X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k3_square_1 X0)) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k6_square_1 X0)) \quad (20)$$

Assume the following.

$$m1_subset_1 \ c5_xreal_0 \ k1_numbers \quad (21)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (((\neg r1_xxreal_0 X0 \ k6_numbers) \Rightarrow (k1_absvalue \ X0 = np_1)) \wedge (((\neg r1_xxreal_0 \ k6_numbers \ X0) \Rightarrow (k1_absvalue \ X0 = k1_real_1 \ np_1)) \wedge (((r1_xxreal_0 \ X0 \ k6_numbers) \wedge (r1_xxreal_0 \ k6_numbers \ X0)) \Rightarrow (k1_absvalue \ X0 = k6_numbers)))) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (((r1_xxreal_0 \ k6_numbers \ X0) \Rightarrow (k16_complex1 \ X0 = X0)) \wedge (((\neg r1_xxreal_0 \ k6_numbers \ X0) \Rightarrow (k16_complex1 \ X0 = k4_xcmplx_0 \ X0)))) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k1_numbers) \wedge (v1_xreal_0 \ X1)) \Rightarrow (k8_real_1 \ X0 \ X1 = k8_real_1 \ X1 \ X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 \ X0) \wedge (v1_xcmplx_0 \ X1)) \Rightarrow (k3_xcmplx_0 \ X0 \ X1 = k3_xcmplx_0 \ X1 \ X0) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (28)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (X0 = k8_real_1 (k18_complex1 X0) (k1_absvalue X0))$$