

# t5\_complex1

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Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k4\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  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  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$(k3\_complex1 k6\_numbers = k6\_numbers) \wedge (k4\_complex1 k6\_numbers = k6\_numbers) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow ((k3\_complex1 X0 = k3\_complex1 X1) \wedge (k4\_complex1 X0 = k4\_complex1 X1)) \Rightarrow (X0 = X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((k2\_xcmplx\_0 (k3\_square\_1 X0) (k3\_square\_1 X1) = k6\_numbers) \Rightarrow (X0 = k6\_numbers))) \quad (4)$$

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.

$$v1\_xboole\_0 np\_0 \quad (6)$$

Assume the following.

$$k3\_xcmplx\_0 \ np\_0 \ np\_0 = np\_0 \quad (7)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_0 \ np\_0 = np\_0 \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k7\_real\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (k5\_square\_1 \ X0 = k3\_square\_1 \ X0) \quad (11)$$

Assume the following.

$$\exists X0. (v1\_xboole\_0 \ X0) \wedge ((v1\_xcmplx\_0 \ X0) \wedge ((v1\_xxreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0))) \quad (12)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (m1\_subset\_1 \ (k5\_square\_1 \ X0) \ k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0. (v1\_xcmplx\_0 \ X0) \Rightarrow (m1\_subset\_1 \ (k4\_complex1 \ X0) \ k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0. (v1\_xcmplx\_0 \ X0) \Rightarrow (m1\_subset\_1 \ (k3\_complex1 \ X0) \ k1\_numbers) \quad (15)$$

Assume the following.

$$\forall X0. (v1\_xcmplx\_0 \ X0) \Rightarrow (k3\_square\_1 \ X0 = k3\_xcmplx\_0 \ X0 \ X0) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xcmplx\_0 \ X0) \wedge (v1\_xcmplx\_0 \ X1)) \Rightarrow (k2\_xcmplx\_0 \ X0 \ X1 = k2\_xcmplx\_0 \ X1 \ X0) \quad (17)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 \ X0) \quad (18)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xcmplx\_0 \ X0) \quad (19)$$

**Theorem 1**

$$\forall X0. (v1\_xcmplx\_0 X0) \Rightarrow ((X0 = k6\_numbers) \Leftrightarrow (k7\_real\_1 (k5\_square\_1 (k3\_complex1 X0)) (k5\_square\_1 (k4\_complex1 X0)) = k6\_numbers))$$