

## t20\_complex1

(TMTjGF2nrZ6Ye4HkHnw9F4LaLKkSQAUAaDYg)

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Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k5\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_complex1 : \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k12\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_xreal\_0 X0) \Rightarrow (\forall X1. (v1\_xreal\_0 X1) \Rightarrow ((k3\_complex1 \\ (k2\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 k7\_complex1)) = X0) \wedge (k4\_complex1 \\ (k2\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 k7\_complex1)) = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k2\_numbers) \Rightarrow (k12\_complex1 X0 = k5\_xcmplx\_0 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k7\_real\_1 X0 X1) k1\_numbers) \quad (4)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k5\_square\_1 X0) k1\_numbers) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_xcmplx\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_complex1 X0) k1\_numbers) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (m1\_subset\_1 (k3\_complex1 X0) k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k1\_real\_1 X0) k1\_numbers) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k10\_real\_1 X0 X1) k1\_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k2\_numbers) \Rightarrow & (k12\_complex1 X0 = k2\_xcmplx\_0 \\ & (k10\_real\_1 (k3\_complex1 X0) (k7\_real\_1 (k5\_square\_1 (k3\_complex1 \\ & X0)) (k5\_square\_1 (k4\_complex1 X0)))) (k3\_xcmplx\_0 (k10\_real\_1 \\ & (k1\_real\_1 (k4\_complex1 X0)) (k7\_real\_1 (k5\_square\_1 (k3\_complex1 \\ & X0)) (k5\_square\_1 (k4\_complex1 X0)))) k7\_complex1)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Leftrightarrow (X0 \in k2\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (12)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow & ((k3\_complex1 (k5\_xcmplx\_0 X0) = \\ & k10\_real\_1 (k3\_complex1 X0) (k7\_real\_1 (k5\_square\_1 (k3\_complex1 \\ & X0)) (k5\_square\_1 (k4\_complex1 X0)))) \wedge (k4\_complex1 (k5\_xcmplx\_0 \\ X0) = & k10\_real\_1 (k1\_real\_1 (k4\_complex1 X0)) (k7\_real\_1 (k5\_square\_1 \\ & (k3\_complex1 X0)) (k5\_square\_1 (k4\_complex1 X0)))))) \end{aligned}$$