

t42_convex4

(TMUxR8Z75AGymHg7Fy6SwAAQ6bm6rTfLHWn)

October 27, 2020

Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_complex1 : \iota \Rightarrow \iota$ be given. Let $k7_complex1 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 X0) \wedge (m1_subset_1 X1 k1_numbers)) \Rightarrow (k4_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (k3_complex1 X0 = k1_complex1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (v1_xcmplx_0 X1) \Rightarrow ((k3_complex1 (k3_xcmplx_0 (k3_xcmplx_0 X0 k7_complex1) X1) = k1_real_1 (k8_real_1 X0 (k4_complex1 X1))) \wedge ((k4_complex1 (k3_xcmplx_0 (k3_xcmplx_0 X0 k7_complex1) X1) = k8_real_1 X0 (k3_complex1 X1)) \wedge ((k3_complex1 (k3_xcmplx_0 X0 X1) = k8_real_1 X0 (k3_complex1 X1)) \wedge (k4_complex1 (k3_xcmplx_0 X0 X1) = k8_real_1 X0 (k4_complex1 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (v1_xreal_0 (k1_complex1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k3_complex1 X0) k1_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (8)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k3_complex1 (k3_xcmplx_0 X0 X1) = k4_real_1 X0 (k3_complex1 X1)))$$