

t3_taylor_1

(TMZegjKgbvtL45uBSZnxCzodbpaw8teq5A2)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_taylor_1 : \iota \Rightarrow \iota$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_prepower : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_prepower : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_fdiff_1 \\ & (k1_taylor_1 X0) X1) \wedge (k1_fdiff_1 (k1_taylor_1 X0) X1 = k3_xcmplx_0 \\ & X0 (k4_prepower X1 (k5_real_1 X0 np_1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_funct_1 \\ & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \Rightarrow (((r1_fdiff_1 X1 X0) \wedge (r1_fdiff_1 \\ & X2 (k1_seq_1 X1 X0))) \Rightarrow ((r1_fdiff_1 (k1_partfun1 k1_numbers k1_numbers \\ & k1_numbers k1_numbers X1 X2) X0) \wedge (k1_fdiff_1 (k1_partfun1 k1_numbers \\ & k1_numbers k1_numbers k1_numbers X1 X2) X0 = k8_real_1 (k1_fdiff_1 \\ & X2 (k1_seq_1 X1 X0)) (k1_fdiff_1 X1 X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \text{ } np_1) \wedge (m1_subset_1 \text{ } np_1 \text{ } k1_numbers \text{ } k5_numbers)) \wedge \\ & ((m1_subset_1 \text{ } np_1 \text{ } k5_numbers) \wedge (m1_subset_1 \text{ } np_1 \text{ } k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \text{ } X0) \wedge (m1_subset_1 \text{ } X1 \text{ } k1_numbers)) \Rightarrow (k5_real_1 \text{ } X0 \text{ } X1 = k6_xcmplx_0 \text{ } X0 \text{ } X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \text{ } X0 \text{ } k1_numbers) \wedge (v1_int_1 \text{ } X1)) \Rightarrow (k5_prepower \text{ } X0 \text{ } X1 = k4_prepower \text{ } X0 \text{ } X1) \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \text{ } X0) \wedge (m1_subset_1 \text{ } X1 \text{ } k1_numbers)) \Rightarrow (k4_real_1 \text{ } X0 \text{ } X1 = k3_xcmplx_0 \text{ } X0 \text{ } X1) \quad (8)$$

Assume the following.

$$v6_membered \text{ } k4_ordinal1 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_int_1 \text{ } X0) \wedge (v1_int_1 \text{ } X1)) \Rightarrow (v1_int_1 \text{ } (k6_xcmplx_0 \text{ } X0 \text{ } X1)) \quad (10)$$

Assume the following.

$$v3_membered \text{ } k1_numbers \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \text{ } X0 \text{ } k1_numbers) \wedge (v1_int_1 \text{ } X1)) \Rightarrow (m1_subset_1 \text{ } (k5_prepower \text{ } X0 \text{ } X1) \text{ } k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0. (v1_int_1 \text{ } X0) \Rightarrow ((v1_funct_1 \text{ } (k1_taylor_1 \text{ } X0)) \wedge ((v1_funct_2 \text{ } (k1_taylor_1 \text{ } X0) \text{ } k1_numbers \text{ } k1_numbers) \wedge (m1_subset_1 \text{ } (k1_taylor_1 \text{ } X0) \text{ } (k1_zfmisc_1 \text{ } (k2_zfmisc_1 \text{ } k1_numbers \text{ } k1_numbers)))))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 \text{ } X0) \wedge ((v1_funct_1 \text{ } X0) \wedge (v3_valued_0 \text{ } X0))) \Rightarrow (m1_subset_1 \text{ } (k1_seq_1 \text{ } X0 \text{ } X1) \text{ } k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \quad (20)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\ & k1_numbers)))) \Rightarrow ((r1_fdiff_1 X2 X1) \Rightarrow ((r1_fdiff_1 (k1_partfun1 \\ & k1_numbers k1_numbers k1_numbers k1_numbers X2 (k1_taylor_1 X0)) \\ & X1) \wedge (k1_fdiff_1 (k1_partfun1 k1_numbers k1_numbers k1_numbers \\ & k1_numbers X2 (k1_taylor_1 X0)) X1 = k8_real_1 (k4_real_1 X0 (k5_prepower \\ & (k1_seq_1 X2 X1) (k5_real_1 X0 np_1))) (k1_fdiff_1 X2 X1)))))) \end{aligned}$$