

## t19\_taylor\_1

(TMPgN99cKNAUGgCa3XTEBb2TjS9cg5YdSbB)

October 27, 2020

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  $k24\_sin\_cos : \iota$  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  $k1\_seq.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $v3\_valued.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal.0 X0) \Rightarrow ((r1\_fdiff.1 k24\_sin\_cos X0) \wedge (k1\_fdiff.1 k24\_sin\_cos X0 = k1\_seq.1 k24\_sin\_cos X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset.1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset.1 X0 k1\_numbers) \Rightarrow (\forall X1.((v1\_funct.1 X1) \wedge (m1\_subset.1 X1 (k1\_zfmisc.1 (k2\_zfmisc.1 k1\_numbers k1\_numbers)))) \Rightarrow \\ & (\forall X2.((v1\_funct.1 X2) \wedge (m1\_subset.1 X2 (k1\_zfmisc.1 (k2\_zfmisc.1 k1\_numbers k1\_numbers)))) \Rightarrow ((r1\_fdiff.1 X1 X0) \wedge (r1\_fdiff.1 X2 (k1\_seq.1 X1 X0))) \Rightarrow ((r1\_fdiff.1 (k1\_partfun1 k1\_numbers k1\_numbers k1\_numbers k1\_numbers X1 X2) X0) \wedge (k1\_fdiff.1 (k1\_partfun1 k1\_numbers k1\_numbers k1\_numbers k1\_numbers X1 X2) X0 = k8\_real.1 (k1\_fdiff.1 X2 (k1\_seq.1 X1 X0)) (k1\_fdiff.1 X1 X0)))))) \quad (3) \end{aligned}$$

Assume the following.

$$v3\_membered k1\_numbers \quad (4)$$

Assume the following.

$$(v1\_funct.1 k24\_sin\_cos) \wedge ((v1\_funct.2 k24\_sin\_cos k1\_numbers k1\_numbers) \wedge (m1\_subset.1 k24\_sin\_cos (k1\_zfmisc.1 (k2\_zfmisc.1 k1\_numbers k1\_numbers)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Leftrightarrow(X0 \in k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \quad (9)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xreal\_0 X1)) \quad (10)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\Rightarrow((r1\_fdiff\_1 \\ X1 X0)\Rightarrow((r1\_fdiff\_1 (k1\_partfun1 k1\_numbers k1\_numbers k1\_numbers \\ k1\_numbers X1 k24\_sin\_cos) X0)\wedge(k1\_fdiff\_1 (k1\_partfun1 k1\_numbers \\ k1\_numbers k1\_numbers k1\_numbers X1 k24\_sin\_cos) X0 = k8\_real\_1 \\ (k1\_seq\_1 k24\_sin\_cos (k1\_seq\_1 X1 X0)) (k1\_fdiff\_1 X1 X0)))))) \end{aligned}$$