

t20_pdiff_9

(TMNSAd2Mof7wP4SEz41ihS3uaEsw8GTdB6v)

October 27, 2020

Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k16_lopban_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_lopban_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 (k16_lopban_1 (k4_real_ns1 np_1) \\
 & (k4_real_ns1 X0)))) \Rightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\
 & (k4_real_ns1 X0))) \wedge ((X2 = k1_funct_1 X1 (k12_finseq_1 k5_numbers \\
 & np_1)) \wedge (k1_normsp_0 (k4_real_ns1 X0) X2 = k1_normsp_0 (k16_lopban_1 \\
 & (k4_real_ns1 np_1) (k4_real_ns1 X0)) X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 (k16_lopban_1 (k4_real_ns1 np_1) \\
 & (k4_real_ns1 X0)))) \Rightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\
 & (k4_real_ns1 X0))) \wedge ((X2 = k1_funct_1 X1 (k12_finseq_1 k5_numbers \\
 & np_1)) \wedge ((\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow (\forall X4. \\
 & (m1_subset_1 X4 (u1_struct_0 (k4_real_ns1 np_1))) \Rightarrow ((X4 = k12_finseq_1 \\
 & k1_numbers X3) \Rightarrow (k17_lopban_1 (k4_real_ns1 np_1) (k4_real_ns1 \\
 & X0) X1 X4 = k1_rlvect_1 (k4_real_ns1 X0) X2 X3)))) \wedge (\forall X3.(\\
 & m1_subset_1 X3 (u1_struct_0 (k4_real_ns1 np_1))) \Rightarrow (k1_normsp_0 \\
 & (k4_real_ns1 X0) (k17_lopban_1 (k4_real_ns1 np_1) (k4_real_ns1 \\
 & X0) X1 X3) = k11_binop_2 (k1_normsp_0 (k4_real_ns1 X0) X2) (k1_normsp_0 \\
 & (k4_real_ns1 np_1) X3))))))
 \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k16_lopban_1 (k4_real_ns1 np_1) \\ & (k4_real_ns1 X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & (k4_real_ns1 np_1))) \Rightarrow (k1_normsp_0 (k4_real_ns1 X0) (k17_lopban_1 \\ & (k4_real_ns1 np_1) (k4_real_ns1 X0) X1 X2) = k11_binop_2 (k1_normsp_0 \\ & (k16_lopban_1 (k4_real_ns1 np_1) (k4_real_ns1 X0)) X1) (k1_normsp_0 \\ & (k4_real_ns1 np_1) X2)))) \end{aligned}$$