

l13_vectsp_1

(TMNaSCxjLV1obJHrikEfr5ZLbBf6sF12dxN)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_vectsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((v5_vectsp_1 \\
& \quad X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 (k1_algstr_0 X0 X2 X3) = k1_algstr_0 \\
& \quad X0 (k6_algstr_0 X0 X1 X2) (k6_algstr_0 X0 X1 X3)) \wedge (k6_algstr_0 X0 \\
& \quad (k1_algstr_0 X0 X2 X3) X1 = k1_algstr_0 X0 (k6_algstr_0 X0 X2 X1) (\\
& \quad k6_algstr_0 X0 X3 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((v2_vectsp_1 \\
& \quad X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 X0 (k1_algstr_0 X0 X2 X3) X1 = k1_algstr_0 \\
& \quad X0 (k6_algstr_0 X0 X2 X1) (k6_algstr_0 X0 X3 X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((v1_vectsp_1 \\
& \quad X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 X0 X1 (k1_algstr_0 X0 X2 X3) = k1_algstr_0 \\
& \quad X0 (k6_algstr_0 X0 X1 X2) (k6_algstr_0 X0 X1 X3))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((v5_vectsp_1 \\
& \quad X0) \Rightarrow ((v1_vectsp_1 X0) \wedge (v2_vectsp_1 X0)))
\end{aligned}$$