

l86_anproj_2 (TM-
PDNnp59E53MmwukRnPzdgQc39VjJXNe7K)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_anproj_2 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_struct_0 X0) = X1) \wedge \\ (k1_algstr_0 X0 (k4_struct_0 X0) X1 = X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 \ X0) \Rightarrow (\forall X1.((\neg v2_struct_0 \ X1) \wedge (\\ (v13_algstr_0 \ X1) \wedge ((v2_rlvect_1 \ X1) \wedge ((v3_rlvect_1 \ X1) \wedge ((v4_rlvect_1 \\ X1) \wedge ((v5_rlvect_1 \ X1) \wedge ((v6_rlvect_1 \ X1) \wedge ((v7_rlvect_1 \ X1) \wedge \\ ((v8_rlvect_1 \ X1) \wedge (l1_rlvect_1 \ X1)))))))))) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 \ (u1_struct_0 \ X1)) \Rightarrow (((X0 = k6_numbers) \vee (X2 = k4_struct_0 \ X1)) \Rightarrow \\ (k1_rlvect_1 \ X1 \ X2 \ X0 = k4_struct_0 \ X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v2_rlvect_1 \ X0) \wedge (l1_algstr_0 \\ X0)) \wedge ((m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X2 \ (u1_struct_0 \\ X0)))) \Rightarrow (k3_rlvect_1 \ X0 \ X1 \ X2 = k1_algstr_0 \ X0 \ X1 \ X2) \end{aligned} \quad (9)$$

Assume the following.

$$\exists X0.(v1_xboole_0 \ X0) \wedge ((v1_xcmplx_0 \ X0) \wedge ((v1_xxreal_0 \\ X0) \wedge (v1_xreal_0 \ X0))) \quad (10)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (11)$$

Assume the following.

$$\forall X0.(l2_algstr_0 \ X0) \Rightarrow ((l2_struct_0 \ X0) \wedge (l1_algstr_0 \ X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 \ X0) \Rightarrow (l2_algstr_0 \ X0) \quad (13)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(l2_struct_0 \ X0) \Rightarrow (m1_subset_1 \ (k4_struct_0 \ X0) \ (u1_struct_0 \\ X0)) \quad (15)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow ((v1_anproj_2 X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 \\
& (u1_struct_0 X0)) \wedge (\exists X2.(m1_subset_1 X2 (u1_struct_0 X0)) \wedge \\
& (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge (\forall X4.(m1_subset_1 \\
& X4 k1_numbers) \Rightarrow (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 k1_numbers) \Rightarrow ((k3_rlvect_1 X0 (k3_rlvect_1 X0 \\
& (k1_rlvect_1 X0 X1 X4) (k1_rlvect_1 X0 X2 X5)) (k1_rlvect_1 X0 X3 \\
& X6) = k4_struct_0 X0) \Rightarrow ((X4 = k6_numbers) \wedge ((X5 = k6_numbers) \wedge (X6 = \\
& k6_numbers)))))))))))))
\end{aligned} \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\
& X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((\exists X1.(m1_subset_1 X1 \\
& (u1_struct_0 X0)) \wedge (\exists X2.(m1_subset_1 X2 (u1_struct_0 X0)) \wedge \\
& (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge (\exists X4.(m1_subset_1 \\
& X4 (u1_struct_0 X0)) \wedge (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 k1_numbers) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 k1_numbers) \Rightarrow (\forall X8.(m1_subset_1 X8 k1_numbers) \Rightarrow ((k3_rlvect_1 \\
& X0 (k3_rlvect_1 X0 (k3_rlvect_1 X0 (k1_rlvect_1 X0 X1 X5) (k1_rlvect_1 \\
& X0 X2 X6)) (k1_rlvect_1 X0 X3 X7)) (k1_rlvect_1 X0 X4 X8) = k4_struct_0 \\
& X0) \Rightarrow ((X5 = k6_numbers) \wedge ((X6 = k6_numbers) \wedge ((X7 = k6_numbers) \wedge \\
& (X8 = k6_numbers))))))))))))) \Rightarrow (v1_anproj_2 X0)
\end{aligned}$$