

t105_euclidlp (TMNsfmRvER- JEWK5kGGtbyxXZwGw1ZP2kBqk)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k1_euclidlp : \iota \Rightarrow \iota$ be given. Let $k5_euclidlp : \iota \Rightarrow \iota$ be given. Let $v1_euclid_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_subset_1 \\ & \quad X1 (k1_zfmisc_1 (k1_euclid X0)) (k1_euclidlp X0)) \Rightarrow (\forall X2. \\ & \quad (m2_subset_1 X2 (k1_zfmisc_1 (k1_euclid X0)) (k1_euclidlp X0)) \Rightarrow \\ & \quad (\neg(v1_euclid_4 X1 X0) \wedge ((v1_euclid_4 X2 X0) \wedge ((X1 \neq X2) \wedge (\forall X3. \\ & \quad (m2_finseq_2 X3 k1_numbers (k1_euclid X0)) \Rightarrow (\neg(X3 \in X1) \wedge (\neg X3 \in X2))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_finseq_2 \\ & \quad X1 k1_numbers (k1_euclid X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k1_zfmisc_1 \\ & \quad (k1_euclid X0)) (k1_euclidlp X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 \\ & \quad (k1_zfmisc_1 (k1_euclid X0)) (k5_euclidlp X0)) \Rightarrow (\forall X4.(\\ & \quad m2_subset_1 X4 (k1_zfmisc_1 (k1_euclid X0)) (k5_euclidlp X0)) \Rightarrow \\ & \quad (((v1_euclid_4 X2 X0) \wedge ((X1 \in X3) \wedge ((r1_tarski X2 X3) \wedge ((X1 \in X4) \wedge \\ & \quad (r1_tarski X2 X4)))))) \Rightarrow ((X1 \in X2) \vee (X3 = X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_subset_1 \\ & X1 (k1_zfmisc_1 (k1_euclid X0)) (k1_euclidlp X0)) \Rightarrow (\forall X2. \\ & (m2_subset_1 X2 (k1_zfmisc_1 (k1_euclid X0)) (k1_euclidlp X0)) \Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k1_zfmisc_1 (k1_euclid X0)) (k5_euclidlp \\ & X0)) \Rightarrow (\forall X4.(m2_subset_1 X4 (k1_zfmisc_1 (k1_euclid X0)) \\ & (k5_euclidlp X0)) \Rightarrow (((v1_euclid_4 X1 X0) \wedge (v1_euclid_4 X2 X0) \wedge \\ & ((r1_tarski X1 X3) \wedge ((r1_tarski X2 X3) \wedge ((r1_tarski X1 X4) \wedge (r1_tarski \\ & X2 X4)))))) \Rightarrow ((X1 = X2) \vee (X3 = X4)))))) \end{aligned}$$