

l56_euclid_4

(TMat2wy5oRijCXy2H9Sc7wxef1Guq4TUJnL)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $v2_euclid_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_euclid_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & \quad (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ & \quad k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ & \quad X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (((X1 \in k4_euclid_4 X0 X2 X3) \wedge (X4 \in k4_euclid_4 X0 X2 X3)) \Rightarrow ((X1 = X4) \vee \\ & \quad (r1_tarski (k4_euclid_4 X0 X2 X3) (k4_euclid_4 X0 X1 X4))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & \quad (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ & \quad k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ & \quad X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid X0))) \Rightarrow \\ & (((X1 \in k4_euclid_4 X0 X2 X3) \wedge (X4 \in k4_euclid_4 X0 X2 X3)) \Rightarrow (r1_tarski \\ & \quad (k4_euclid_4 X0 X1 X4) (k4_euclid_4 X0 X2 X3))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & \quad (u1_struct_0 (k15_euclid X0)))) \Rightarrow ((v2_euclid_4 X1 X0) \Leftrightarrow (\exists X2. \\ & \quad (m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \wedge (\exists X3. (\\ & \quad m1_subset_1 X3 (u1_struct_0 (k15_euclid X0))) \wedge ((X2 \neq X3) \wedge (X1 = \\ & \quad k4_euclid_4 X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & \quad (u1_struct_0\ (k15_euclid\ X0)))) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\ & \quad (u1_struct_0\ (k15_euclid\ X0))) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (\\ u1_struct_0\ (k15_euclid\ X0))) \Rightarrow (((v2_euclid_4\ X1\ X0) \wedge ((X2 \in X1) \wedge \\ & \quad (X3 \in X1))) \Rightarrow ((X2 = X3) \vee (X1 = k4_euclid_4\ X0\ X2\ X3)))))) \end{aligned}$$