

t19\_euclid\_5 (TM-  
FoDx7NrQs755PhQPcRKneNCCvTm6QaPtP)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_euclid\_5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_euclid\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_euclid\_5 : \iota \Rightarrow \iota$  be given. Let  $k2\_euclid\_5 : \iota \Rightarrow \iota$  be given. Let  $k3\_euclid\_5 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k11\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (k4\_struct\_0 (k15\_euclid X0) = k5\_euclid X0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$k4\_struct\_0 (k15\_euclid np\_3) = k4\_euclid\_5 k6\_numbers k6\_numbers k6\_numbers \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow ((k1\_euclid\_5 \\ (k4\_euclid\_5 X0 X1 X2) = X0) \wedge ((k2\_euclid\_5 (k4\_euclid\_5 X0 X1 X2) = \\ X1) \wedge (k3\_euclid\_5 (k4\_euclid\_5 X0 X1 X2) = X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ (k15\_euclid X0))) \Rightarrow ((k1\_rlvect\_1 (k15\_euclid X0) X1 np\_1 = X1) \wedge \\ (k1\_rlvect\_1 (k15\_euclid X0) X1 k6\_numbers = k4\_struct\_0 (k15\_euclid \\ X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (u1\_struct\_0 (k15\_euclid X0) = k1\_euclid X0) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 (k15\_euclid np\_3))) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 (k15\_euclid np\_3))) \Rightarrow ((k5\_euclid\_5 (k1\_rlvect\_1 \\ (k15\_euclid np\_3) X1 X0) X2 = k1\_rlvect\_1 (k15\_euclid np\_3) (k5\_euclid\_5 \\ X1 X2) X0) \wedge (k5\_euclid\_5 (k1\_rlvect\_1 (k15\_euclid np\_3) X1 X0) \\ X2 = k5\_euclid\_5 X1 (k1\_rlvect\_1 (k15\_euclid np\_3) X2 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k8\_real\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (12)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (13)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(k11\_binop\_2 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (15)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k3\_xcmplx\_0 X0 X1)) \quad (17)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xreal\_0 X1))\Rightarrow(m1\_subset\_1 (k9\_real\_1 X0 X1) k1\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xreal\_0 X1))\Rightarrow(m1\_subset\_1 (k8\_real\_1 X0 X1) k1\_numbers) \quad (20)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m2\_finseq\_2 (k5\_euclid X0) k1\_numbers (k1\_euclid X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_xreal\_0 X0)\wedge((v1\_xreal\_0 X1)\wedge(v1\_xreal\_0 X2)))\Rightarrow(m1\_subset\_1 (k4\_euclid\_5 X0 X1 X2) (u1\_struct\_0 (k15\_euclid np\_3))) \quad (22)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(m1\_subset\_1 (k11\_binop\_2 X0 X1) k1\_numbers) \quad (24)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_3))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_3))) \Rightarrow \\
& (k5\_euclid\_5 X0 X1 = k4\_euclid\_5 (k9\_real\_1 (k8\_real\_1 (k2\_euclid\_5 \\
& X0) (k3\_euclid\_5 X1)) (k8\_real\_1 (k3\_euclid\_5 X0) (k2\_euclid\_5 \\
& X1))) (k9\_real\_1 (k8\_real\_1 (k3\_euclid\_5 X0) (k1\_euclid\_5 X1)) \\
& (k8\_real\_1 (k1\_euclid\_5 X0) (k3\_euclid\_5 X1))) (k9\_real\_1 (k8\_real\_1 \\
& (k1\_euclid\_5 X0) (k2\_euclid\_5 X1)) (k8\_real\_1 (k2\_euclid\_5 X0) \\
& (k1\_euclid\_5 X1))))))
\end{aligned} \tag{25}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \tag{26}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \tag{27}$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \tag{28}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k1\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (k5\_euclid\_5 \\
& (k4\_euclid\_5 k6\_numbers k6\_numbers k6\_numbers) (k4\_euclid\_5 \\
& X0 X1 X2) = k4\_struct\_0 (k15\_euclid np\_3))))))
\end{aligned}$$