t17_topreal9 (TMGUMvU5qJaMgwbfJfRzfi4UNkqUCaKxT1f)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k15\_euclid : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k14\_euclid : \iota \Rightarrow \iota$ be given. Let $k11\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_metric\_1 : \iota \Rightarrow o$ be given. Let $k10\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v6\_membered : \iota \Rightarrow o$ be given. Let $v1\_metric\_1 : \iota \Rightarrow o$ be given. Let $v6\_metric\_1 : \iota \Rightarrow o$ be given. Let $v7\_metric\_1 : \iota \Rightarrow o$ be given. Let $v8\_metric\_1 : \iota \Rightarrow o$ be given. Let $v9\_metric\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (u1\_struct\_0\ (k15\_euclid\ X0) = u1\_struct\_0\ (k14\_euclid\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k14\_euclid\ X0))) \Rightarrow ((X2 = X3) \Rightarrow (k11\_metric\_1\ (k14\_euclid\ X0)\ X3\ X1 = k3\_topreal9\ X0\ X2\ X1))))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(l1\_metric\_1\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (r1\_tarski\ (k11\_metric\_1\ X1\ X2\ X0)\ (k10\_metric\_1\ X1\ X2\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k14\_euclid\ X0))) \Rightarrow ((X2 = X3) \Rightarrow (k10\_metric\_1\ (k14\_euclid\ X0)\ X3\ X1 = k2\_topreal9\ X0\ X2\ X1))))) \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \tag{6}$$

Assume the following.

$$\begin{gathered}\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v1\_metric\_1\ (k14\_euclid\ X0)) \wedge \\ ((v6\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v7\_metric\_1\ (k14\_euclid\ X0)) \wedge \\ ((v8\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v9\_metric\_1\ (k14\_euclid\ X0)) \wedge \\ (l1\_metric\_1\ (k14\_euclid\ X0)))))))\end{gathered} \tag{7}$$

Assume the following.

$$\begin{gathered}\forall X0.(v6\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow \\ (v7\_ordinal1\ X1))\end{gathered} \tag{8}$$

Theorem 1

$$\begin{gathered}\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0 \\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0))) \Rightarrow \\ (r1\_tarski\ (k3\_topreal9\ X0\ X2\ X1)\ (k2\_topreal9\ X0\ X2\ X1))))\end{gathered}$$