

t6_topreal9
(TMWkDD3nrVvKme7kdq6KarEAszTDgsZye63)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v6_metric_1 X0) \wedge ((v7_metric_1 X0) \wedge ((v8_metric_1 \\ X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow (\neg(X1 \neq X2) \wedge (r1_xreal_0 (k4_metric_1 X0 X1 X2) k6_numbers)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_metric_1 X0 X1 X1 = k6_numbers)) \Leftrightarrow (v6_metric_1 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(l1_metric_1 X1) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X1)) \Rightarrow ((X3 \in k10_metric_1 X1 X2 X0) \Leftrightarrow ((\neg v2_struct_0 \\ X1) \wedge (r1_xreal_0 (k2_metric_1 X1 X2 X3) X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v8_metric_1 X0) \wedge (l1_metric_1 \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (k4_metric_1 X0 X1 X2 = k2_metric_1 X0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow (\\ & r1_xxreal_0 X0 X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l1_metric_1 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k2_metric_1 X0 X1 X2) k1_numbers) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (\\ & (v6_metric_1 X1) \wedge ((v7_metric_1 X1) \wedge ((v8_metric_1 X1) \wedge ((v9_metric_1 \\ & X1) \wedge (l1_metric_1 X1)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\neg (X2 \neq X3) \wedge ((X2 \in k10_metric_1 \\ & X1 X4 X0) \wedge ((X3 \in k10_metric_1 X1 X4 X0) \wedge (r1_xxreal_0 X0 k6_numbers)))))))))) \end{aligned}$$