

t6\_metric\_1 (TMM-  
Mqj5A3nSZ6wbmis3qPiLNQMmY4YP5xeW)

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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  $k2\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} \forall X0.(l1\_metric\_1 X0) \Rightarrow & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (r1\_xxreal\_0 (k2\_metric\_1 \\ & X0 X1 X3) (k7\_real\_1 (k2\_metric\_1 X0 X1 X2) (k2\_metric\_1 X0 X2 X3)))))) \Leftrightarrow \\ & (v9\_metric\_1 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_metric\_1 X0) \Rightarrow & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k2\_metric\_1 \\ & X0 X1 X2 = k2\_metric\_1 X0 X2 X1))) \Rightarrow (v8\_metric\_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_metric\_1 X0) \Rightarrow & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k2\_metric\_1 \\ & X0 X1 X2 = k6\_numbers) \Rightarrow (X1 = X2)))) \Leftrightarrow (v7\_metric\_1 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_metric\_1 X0) \Rightarrow & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (k2\_metric\_1 X0 X1 X1 = k6\_numbers)) \Leftrightarrow (v6\_metric\_1 X0)) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(l1\_metric\_1 X0) \Rightarrow ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((k2\_metric\_1 X0 X1 X2 = k6\_numbers) \Rightarrow \\ & (X1 = X2)) \wedge (((X1 = X2) \Rightarrow (k2\_metric\_1 X0 X1 X2 = k6\_numbers)) \wedge ((k2\_metric\_1 \\ & X0 X1 X2 = k2\_metric\_1 X0 X2 X1) \wedge (r1\_xxreal\_0 (k2\_metric\_1 X0 X1 X3) \\ & (k7\_real\_1 (k2\_metric\_1 X0 X1 X2) (k2\_metric\_1 X0 X2 X3)))))) \Rightarrow \\ & ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 \\ & \quad X0) \wedge (l1\_metric\_1 X0)))))) \end{aligned}$$