

t53\_topreal6  
(TMGshE19vr9RNLW9f3Pt9K9rJnxAds5caP)

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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  $v8\_metric\_1 : \iota \Rightarrow o$  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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k11\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v6\_metric\_1 X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 \\ X0) \wedge (l1\_metric\_1 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r1\_xxreal\_0 \\ k6\_numbers (k4\_metric\_1 X0 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(l1\_metric\_1 X1) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X1)) \Rightarrow ((X3 \in k11\_metric\_1 X1 X2 X0) \Leftrightarrow ((\neg v2\_struct\_0 \\ X1) \wedge (k2\_metric\_1 X1 X2 X3 = X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v8\_metric\_1 X0)\wedge(l1\_metric\_1 X0))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k4\_metric\_1 X0 X1 X2 = k2\_metric\_1 X0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_metric\_1 X0)\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(v1\_xreal\_0 X2)))\Rightarrow(m1\_subset\_1 (k11\_metric\_1 X0 X1 X2) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \quad (8)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge(v6\_metric\_1 X1)\wedge((v8\_metric\_1 X1)\wedge((v9\_metric\_1 X1)\wedge(l1\_metric\_1 X1))))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1))\Rightarrow((\neg r1\_xxreal\_0 k6\_numbers X0)\Rightarrow(k11\_metric\_1 X1 X2 X0 = k1\_xboole\_0))))$$