# t10_topmetr (TMbn9SJ8WiewBKQJbYdpo4QxaQuqK5CaWLG)

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Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $g1\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_metric\_1 : \iota \Rightarrow o$ be given. Let $k8\_metric\_1 : \iota$ 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. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_metric\_1 : \iota \Rightarrow o$ be given. Let $k1\_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_metric\_1 : \iota$ be given. Let $m1\_topmetr : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_metric\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (\forall X2.\ (v1\_xxreal\_0\ X2) \Rightarrow ((X0 \in k1\_xxreal\_1\ X1\ X2) \Leftrightarrow ((r1\_xxreal\_0\ X1\ X0) \wedge\ (r1\_xxreal\_0\ X0\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow (\ r1\_xxreal\_0\ X0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0) \wedge (v1\_xreal\_0\ X1)) \Rightarrow (k1\_rcomp\_1\ X0\ X1 = k1\_xxreal\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers)))))\Rightarrow(\forall X2.\forall X3.(g1\_metric\_1\ X0\ X1 = g1\_metric\_1\ X2\ X3)\Rightarrow((X0 = X2)\wedge(X1 = X3)))) \tag{5}$$

Assume the following.

$$(v1\_metric\_1\ k8\_metric\_1)\wedge((v6\_metric\_1\ k8\_metric\_1)\wedge((v7\_metric\_1\ k8\_metric\_1)\wedge((v8\_metric\_1\ k8\_metric\_1)\wedge(v9\_metric\_1\ k8\_metric\_1)))) \tag{6}$$

Assume the following.

$$(\neg v2\_struct\_0\ k8\_metric\_1)\wedge(v1\_metric\_1\ k8\_metric\_1) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v6\_metric\_1\ X0)\wedge((v7\_metric\_1\ X0)\wedge((v8\_metric\_1\ X0)\wedge((v9\_metric\_1\ X0)\wedge(l1\_metric\_1\ X0))))))\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow((\neg v2\_struct\_0\ (k1\_topmetr\ X0\ X1))\wedge(v1\_metric\_1\ (k1\_topmetr\ X0\ X1))) \tag{8}$$

Assume the following.

$$(v1\_metric\_1\ k8\_metric\_1)\wedge(l1\_metric\_1\ k8\_metric\_1) \tag{9}$$

Assume the following.

$$(v1\_funct\_1\ k7\_metric\_1)\wedge((v1\_funct\_2\ k7\_metric\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)\wedge(m1\_subset\_1\ k7\_metric\_1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v6\_metric\_1\ X0)\wedge((v7\_metric\_1\ X0)\wedge((v8\_metric\_1\ X0)\wedge((v9\_metric\_1\ X0)\wedge(l1\_metric\_1\ X0))))))\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow((v1\_metric\_1\ (k1\_topmetr\ X0\ X1))\wedge(m1\_topmetr\ (k1\_topmetr\ X0\ X1)\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(m1\_subset\_1\ (k1\_rcomp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ k1\_numbers)) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow((r1\_xxreal\_0\ X0\ X1)\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v1\_metric\_1\ X2)\wedge(m1\_topmetr\ X2\ k8\_metric\_1)))\Rightarrow((X2 = k2\_topmetr\ X0\ X1)\Leftrightarrow(\forall X3.((\neg v1\_xboole\_0\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ k8\_metric\_1))))\Rightarrow((X3 = k1\_rcomp\_1\ X0\ X1)\Rightarrow(X2 = k1\_topmetr\ k8\_metric\_1\ X3)))))))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v6\_metric\_1\ X0)\wedge((v7\_metric\_1\ X0)\wedge((v8\_metric\_1\ X0)\wedge((v9\_metric\_1\ X0)\wedge(l1\_metric\_1\ X0))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X2.((v1\_metric\_1\ X2)\wedge(m1\_topmetr\ X2\ X0))\Rightarrow((X2 = k1\_topmetr\ X0\ X1)\Leftrightarrow(u1\_struct\_0\ X2 = X1)))) \tag{14}$$

Assume the following.

$$k8\_metric\_1 = g1\_metric\_1\ k1\_numbers\ k7\_metric\_1 \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \tag{16}$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0)\Rightarrow((v1\_metric\_1\ X0)\Rightarrow(X0 = g1\_metric\_1\ (u1\_struct\_0\ X0)\ (u1\_metric\_1\ X0))) \tag{17}$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow((r1\_xxreal\_0\ X0\ X1)\Rightarrow(u1\_struct\_0\ (k2\_topmetr\ X0\ X1) = k1\_rcomp\_1\ X0\ X1)))$$