t20_topgrp_1 (TM-dRHAQM4ArV8YTLh4nH879sNT6JHw924yj)

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Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v3\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k2\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_t\_0topsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(k9\_xtuple\_0\ (k4\_relat\_1\ X0) = X0) \wedge (k10\_xtuple\_0\ (k4\_relat\_1\ X0) = X0) \tag{1}$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v5\_relat\_1\ X1\ X0)) \Rightarrow (k2\_relset\_1\ X0\ X1 = k10\_xtuple\_0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)) \Rightarrow (k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v1\_funct\_1\ (k2\_tops\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k3\_struct\_0\ X0))) \wedge ((v1\_funct\_2\ (k2\_tops\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k3\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \wedge (v5\_pre\_topc\ (k2\_tops\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k3\_struct\_0\ X0))\ X0\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0))\wedge(v2\_funct\_1\ (k4\_relat\_1\ X0)) \tag{6}$$

Assume the following.

$$\begin{gathered}\forall X0.(l1\_pre\_topc\ X0)\Rightarrow((v1\_funct\_1\ (k3\_struct\_0\ X0))\wedge \\ ((v1\_funct\_2\ (k3\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge \\ ((v5\_pre\_topc\ (k3\_struct\_0\ X0)\ X0\ X0)\wedge(v1\_t\_0topsp\ (k3\_struct\_0 \\ X0)\ X0\ X0))))\end{gathered} \tag{7}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{8}$$

Assume the following.

$$\begin{gathered}\forall X0.(v1\_partfun1\ (k6\_partfun1\ X0)\ X0)\wedge(m1\_subset\_1\ (k6\_partfun1 \\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\end{gathered} \tag{9}$$

Assume the following.

$$\begin{gathered}\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(l1\_pre\_topc\ X1)\Rightarrow(\forall X2. \\ ((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0 \\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0 \\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((v3\_tops\_2\ X2\ X0\ X1)\Leftrightarrow((k1\_relset\_1 \\ (u1\_struct\_0\ X0)\ X2 = k2\_struct\_0\ X0)\wedge((k2\_relset\_1\ (u1\_struct\_0 \\ X1)\ X2 = k2\_struct\_0\ X1)\wedge((v2\_funct\_1\ X2)\wedge((v5\_pre\_topc\ X2\ X0\ X1)\wedge \\ (v5\_pre\_topc\ (k2\_tops\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2) \\ X1\ X0))))))))\end{gathered} \tag{10}$$

Assume the following.

$$\begin{gathered}\forall X0.(l1\_struct\_0\ X0)\Rightarrow(k3\_struct\_0\ X0 = k6\_partfun1\ (u1\_struct\_0 \\ X0))\end{gathered} \tag{11}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(k2\_struct\_0\ X0 = u1\_struct\_0\ X0) \tag{12}$$

Assume the following.

$$\begin{gathered}\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1))\end{gathered} \tag{13}$$

Theorem 1 $\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(v3\_tops\_2\ (k3\_struct\_0\ X0)\ X0\ X0)$.