

## t55\_tops\_2

(TMRUEbwSKd6xWiu8bb1Ms4JKv98DyqTgof4)

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Let  $l1\_struct.0 : \iota \Rightarrow o$  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  $u1\_struct.0 : \iota \Rightarrow \iota$  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  $k2\_rreset.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $v2\_funct.1 : \iota \Rightarrow o$  be given. Let  $k8\_rreset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_rreset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tops.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $k8\_relat.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_relat.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funct.1 : \iota \Rightarrow \iota$  be given. Let  $v3\_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_funct.2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat.1 X1) \wedge (v1\_funct.1 X1)) \Rightarrow ((v2\_funct.1 X1) \Rightarrow (k8\_relat.1 X1 X0 = k7\_relat.1 (k2\_funct.1 X1) X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (m1\_subset.1 X2 (k1\_zfmisc.1 (k2\_zfmisc.1 X0 X1))) \Rightarrow (k8\_rreset.1 X0 X1 X2 X3 = k8\_relat.1 X2 X3) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (m1\_subset.1 X2 (k1\_zfmisc.1 (k2\_zfmisc.1 X0 X1))) \Rightarrow (k7\_rreset.1 X0 X1 X2 X3 = k7\_relat.1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_funct.1 X2) \wedge ((v1\_funct.2 X2 X0 X1) \wedge (m1\_subset.1 X2 (k1\_zfmisc.1 (k2\_zfmisc.1 X0 X1)))) \Rightarrow ((v1\_funct.1 (k2\_tops.2 X0 X1 X2)) \wedge ((v1\_funct.2 (k2\_tops.2 X0 X1 X2) X1 X0) \wedge (m1\_subset.1 (k2\_tops.2 X0 X1 X2) (k1\_zfmisc.1 (k2\_zfmisc.1 X1 X0)))))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 \\ & X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow \\ & ((v3\_funct\_2 X2 X0 X1)\Rightarrow(k2\_tops\_2 X0 X1 X2 = k2\_funct\_1 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0)\Rightarrow(k2\_struct\_0 X0 = u1\_struct\_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow( \\ & (v2\_funct\_2 X1 X0)\Leftrightarrow(k2\_relset\_1 X0 X1 = X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\Rightarrow(((v1\_funct\_1 X2)\wedge((v2\_funct\_1 X2)\wedge(v2\_funct\_2 \\ & X2 X1)))\Rightarrow((v1\_funct\_1 X2)\wedge(v3\_funct\_2 X2 X0 X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \end{aligned} \quad (10)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(l1\_struct\_0 X0)\Rightarrow(\forall X1.(l1\_struct\_0 X1)\Rightarrow(\forall X2. \\ & ((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X1))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1))))))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X1)))\Rightarrow(((k2\_relset\_1 (u1\_struct\_0 X1) X2 = k2\_struct\_0 \\ & X1)\wedge(v2\_funct\_1 X2))\Rightarrow(k8\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X1) X2 X3 = k7\_relset\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X0) (k2\_tops\_2 \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2) X3)))))) \end{aligned}$$