

t5\_pcomps\_2  
(TMLrK53dvSsQb8Kbdr5vrHp3MZwiJbTrfyh)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  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  $l1\_metric\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  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  $r1\_pcomps\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_pcomps\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1. ((v6\_metric\_1 X1) \wedge ((v7\_metric\_1 X1) \wedge ((v8\_metric\_1 \\ & X1) \wedge ((v9\_metric\_1 X1) \wedge (l1\_metric\_1 X1)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)) k1\_numbers) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) k1\_numbers)))))) \Rightarrow \\ & (((r1\_pcomps\_1 (u1\_struct\_0 X0) X2) \wedge (X1 = k4\_pcomps\_1 (u1\_struct\_0 \\ & X0) X2))) \Rightarrow (u1\_struct\_0 X1 = u1\_struct\_0 X0))) \end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1. ((v6\_metric\_1 X1) \wedge ((v7\_metric\_1 X1) \wedge ((v8\_metric\_1 \\ & X1) \wedge ((v9\_metric\_1 X1) \wedge (l1\_metric\_1 X1)))))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow (\forall X3. \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 (k2\_zfmisc\_1 (u1\_struct\_0 X0) \\ & (u1\_struct\_0 X0)) k1\_numbers) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) k1\_numbers)))))) \Rightarrow \\ & (((r1\_pcomps\_1 (u1\_struct\_0 X0) X3) \wedge (X1 = k4\_pcomps\_1 (u1\_struct\_0 \\ & X0) X3))) \Rightarrow ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))) \Leftrightarrow (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1)))))) \end{aligned}$$