

## t25\_topalg\_3

(TMUJs2VJxEwpWn3ymyRFGY3NouxNmEuF2a7)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_borsuk\_2 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  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  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_borsuk\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_topmetr : \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_borsuk\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_borsuk\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
 & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
 & X1))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X2 X0 X1) \wedge (m1\_subset\_1 X2 \\
 & (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))))) \Rightarrow \\
 & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 \\
 & X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_borsuk\_2 X5 X0 X3 X4) \Rightarrow ((r1\_borsuk\_6 \\
 & X0 X3 X4) \Rightarrow (m1\_borsuk\_2 (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\
 & (u1\_struct\_0 X0) (u1\_struct\_0 X0) (u1\_struct\_0 X1) X5 X2) X1 (k3\_funct\_2 \\
 & (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X3) (k3\_funct\_2 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X1) X2 X4))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc \\
 & X0) \wedge (l1\_pre\_topc X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\
 & m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow ((r1\_borsuk\_6 X0 X1 X2) \Leftrightarrow (r1\_borsuk\_2 \\
 & X0 X1 X2))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (l1\_pre\_topc X0) \Rightarrow ((v1\_borsuk\_2 X0) \Leftrightarrow (\forall X1. ( \\
 & m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\
 & (u1\_struct\_0 X0)) \Rightarrow (r1\_borsuk\_2 X0 X1 X2))))
 \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v1\_borsuk\_2 \\ & X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc \\ & X1) \wedge (l1\_pre\_topc X1)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge ((v5\_pre\_topc X2 X0 X1) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X1)))))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\ & (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_borsuk\_2 X5 \\ & X0 X3 X4) \Rightarrow (m1\_borsuk\_2 (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X0) (u1\_struct\_0 X1) X5 X2) X1 (k3\_funct\_2 \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X3) (k3\_funct\_2 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1) X2 X4)))))) \end{aligned}$$