

# t10\_graph\_1

(TMUp8ou1SUHEyk6nC9rGLUCbdatdbAcdmMu)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $r1\_graph\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_graph\_1 : \iota \Rightarrow \iota$  be given. Let  $u2\_graph\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_graph\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  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  $u4\_struct\_0 : \iota \Rightarrow \iota$  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  $g1\_graph\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow (((r1\_partfun1 (u1\_graph\_1 \\ & X0) (u1\_graph\_1 X1)) \wedge (r1\_partfun1 (u2\_graph\_1 X0) (u2\_graph\_1 \\ & X1))) \Rightarrow (k5\_graph\_1 X0 X1 = k5\_graph\_1 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge (( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((r1\_partfun1 X0 X1) \Rightarrow (r1\_partfun1 \\ & X1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_graph\_1 X0) \Rightarrow ((v1\_funct\_1 (u2\_graph\_1 X0)) \wedge (( \\ & v1\_funct\_2 (u2\_graph\_1 X0) (u4\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge \\ & (m1\_subset\_1 (u2\_graph\_1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u4\_struct\_0 \\ & X0) (u1\_struct\_0 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_graph\_1 X0) \Rightarrow ((v1\_funct\_1 (u1\_graph\_1 X0)) \wedge (( \\ & v1\_funct\_2 (u1\_graph\_1 X0) (u4\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge \\ & (m1\_subset\_1 (u1\_graph\_1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u4\_struct\_0 \\ & X0) (u1\_struct\_0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow (\forall X2.((\neg v2\_struct\_0 \\
& X2) \wedge (l1\_graph\_1 X2)) \Rightarrow ((r1\_graph\_1 X0 X1 X2) \Leftrightarrow ((r1\_partfun1 (u2\_graph\_1 \\
& X1) (u2\_graph\_1 X2)) \wedge ((r1\_partfun1 (u1\_graph\_1 X1) (u1\_graph\_1 \\
& X2)) \wedge (g1\_graph\_1 (u1\_struct\_0 X0) (u4\_struct\_0 X0) (u1\_graph\_1 \\
& X0) (u2\_graph\_1 X0) = k5\_graph\_1 X1 X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow (\forall X2.((\neg v2\_struct\_0 \\
& X2) \wedge (l1\_graph\_1 X2)) \Rightarrow ((r1\_graph\_1 X0 X1 X2) \Rightarrow (r1\_graph\_1 X0 X2 \\
& X1))))
\end{aligned}$$