

## t7\_jgraph\_6

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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  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k3\_topmetr : \iota$  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  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
 & X0))) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 k3\_topmetr)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\
 & k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow \\
 & (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) \\
 & (u1\_struct\_0 k3\_topmetr)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow (\neg (v5\_pre\_topc \\
 & X1 X0 k3\_topmetr) \wedge ((v5\_pre\_topc X2 X0 k3\_topmetr) \wedge (\forall X3. \\
 & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & k3\_topmetr)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow (\neg (\forall X4. (m1\_subset\_1 \\
 & X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. (v1\_xreal\_0 X5) \Rightarrow (\forall X6. \\
 & (v1\_xreal\_0 X6) \Rightarrow (((k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & k3\_topmetr) X1 X4 = X5) \wedge (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & k3\_topmetr) X2 X4 = X6)) \Rightarrow (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & k3\_topmetr) X3 X4 = k6\_xcmplx\_0 X5 X6)))))) \wedge (v5\_pre\_topc X3 X0 k3\_topmetr))))))
 \end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& \quad X0))) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\exists X2.((v1\_funct\_1 \\
& \quad X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr)) \wedge \\
& \quad (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& \quad k3\_topmetr)))))) \wedge ((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr) X2 \\
& \quad X3 = X1)) \wedge (v5\_pre\_topc X2 X0 k3\_topmetr))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& \quad X0))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 \\
& \quad X0) (u1\_struct\_0 k3\_topmetr)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\
& \quad k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow \\
& \quad (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\neg (v5\_pre\_topc X1 X0 k3\_topmetr) \wedge \\
& \quad (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 (u1\_struct\_0 X0) \\
& \quad (u1\_struct\_0 k3\_topmetr)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& \quad (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow (\neg (\forall X4. \\
& \quad (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(v1\_xreal\_0 X5) \Rightarrow \\
& \quad ((k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr) X1 X4 = \\
& \quad X5) \Rightarrow (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 k3\_topmetr) X3 \\
& \quad X4 = k6\_xcmplx\_0 X5 X2)))) \wedge (v5\_pre\_topc X3 X0 k3\_topmetr))))))
\end{aligned}$$