

## t9\_homothet

(TMEtb3DqYvqH2XWrKqZxBQxgePvzGyUMACB)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_diraf : \iota \Rightarrow o$  be given. Let  $v2\_diraf : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $v7\_aff\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r2\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_homothet : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge ((v2\_diraf X0) \wedge \\
 & \quad (l1\_analoaf X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
 & \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
 & \quad (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg(r2\_aff\_1 \\
 & \quad X0 X1 X2 X3) \wedge ((\neg X1 \in X3) \wedge (v7\_aff\_2 X0) \wedge (\forall X4.((v1\_funct\_1 \\
 & \quad X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge ((v3\_funct\_2 \\
 & \quad X4 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
 & \quad (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow (\neg(r1\_homothet \\
 & \quad X0 X4 X3) \wedge (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4 X1 = X2))))))))) \\
 & \hspace{15em} (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge ((v2\_diraf X0) \wedge \\
 & \quad (l1\_analoaf X0)))) \Rightarrow ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
 & \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
 & \quad (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg(r2\_aff\_1 \\
 & \quad X0 X1 X2 X3) \wedge ((\neg X1 \in X3) \wedge (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 \\
 & \quad X4 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge ((v3\_funct\_2 X4 (u1\_struct\_0 \\
 & \quad X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & \quad (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow (\neg(r1\_homothet X0 X4 \\
 & \quad X3) \wedge (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4 X1 = X2)))))) \Rightarrow \\
 & \quad (v7\_aff\_2 X0)) \\
 & \hspace{15em} (2)
 \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge ((v2\_diraf X0) \wedge \\ & (l1\_analoaf X0)))) \Rightarrow ((v7\_aff\_2 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\neg(r2\_aff\_1 X0 X1 X2 X3) \wedge ((\neg X1 \in X3) \wedge (\forall X4.((v1\_funct\_1 X4) \wedge \\ & ((v1\_funct\_2 X4 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge ((v3\_funct\_2 \\ & X4 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))))) \Rightarrow (\neg(r1\_homothet \\ & X0 X4 X3) \wedge (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X0) X4 X1 = X2)))))))))) \end{aligned}$$