

# t51\_compos\_2 (TMLyGBJWevitecqpBmH- BaPEVPUJUi9DfMr6d)

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Let  $v1\_amistd\_4 : \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $v6\_compos\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_compos\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_compos\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k5\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq\_1 : \iota \Rightarrow o$  be given. Let  $v3\_compos\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_compos\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k62\_valued\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
 & ((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
 & X0))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 \\
 & X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
 & X2) \wedge ((v1\_finset\_1 X2) \wedge ((v1\_afinsq\_1 X2) \wedge ((v3\_compos\_1 X2 X0) \wedge \\
 & (v4\_compos\_1 X2 X0)))))))))) \Rightarrow (k1\_funct\_1 (k2\_compos\_2 X0 X2 X1) \\
 & (k62\_valued\_1 X2) = k5\_compos\_0 (u1\_compos\_1 X0) X1 (k62\_valued\_1 \\
 & X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
 & ((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
 & X0))) \Rightarrow (\forall X2.((v6\_compos\_0 X2 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 \\
 & X2 (u1\_compos\_1 X0))) \Rightarrow (k62\_valued\_1 (k3\_compos\_2 X0 X1 X2) = np\_2)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 \\
& X0)) \wedge (((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
& X0))) \wedge ((v6\_compos\_0 X2 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X2 (u1\_compos\_1 \\
& X0)))))) \Rightarrow ((\neg v1\_xboole\_0 (k3\_compos\_2 X0 X1 X2)) \wedge ((v1\_relat\_1 \\
& (k3\_compos\_2 X0 X1 X2)) \wedge ((v4\_relat\_1 (k3\_compos\_2 X0 X1 X2) k5\_numbers) \wedge \\
& ((v5\_relat\_1 (k3\_compos\_2 X0 X1 X2) (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
& (k3\_compos\_2 X0 X1 X2)) \wedge ((v1\_finset\_1 (k3\_compos\_2 X0 X1 X2)) \wedge \\
& ((v1\_afinsq\_1 (k3\_compos\_2 X0 X1 X2)) \wedge ((v3\_compos\_1 (k3\_compos\_2 \\
& X0 X1 X2) X0) \wedge (v4\_compos\_1 (k3\_compos\_2 X0 X1 X2) X0)))))))))) \\
& \tag{3}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
& ((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
& X0))) \Rightarrow (\forall X2. ((v6\_compos\_0 X2 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 \\
& X2 (u1\_compos\_1 X0))) \Rightarrow (\forall X3. ((v6\_compos\_0 X3 (u1\_compos\_1 \\
& X0)) \wedge (m1\_subset\_1 X3 (u1\_compos\_1 X0))) \Rightarrow (k1\_funct\_1 (k2\_compos\_2 \\
& X0 (k3\_compos\_2 X0 X1 X2) X3) np\_2 = k5\_compos\_0 (u1\_compos\_1 X0) \\
& X3 np\_2))))))
\end{aligned}$$