

t1\_latsubgr  
(TMHF5ULetiZthCxwmL2uM8fTRQqMovBDizU)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1\_group\_2 X2 X0) \Rightarrow ((\forall X3.(m1\_group\_2 X3 X0) \Rightarrow ((X3 = k9\_group\_2 \\ & X0 X1 X2) \Rightarrow (u1\_struct\_0 X3 = k3\_xboole\_0 (u1\_struct\_0 X1) (u1\_struct\_0 \\ & X2)))) \wedge (\forall X3.((v15\_algstr\_0 X3) \wedge (m1\_group\_2 X3 X0)) \Rightarrow ( \\ & (u1\_struct\_0 X3 = k3\_xboole\_0 (u1\_struct\_0 X1) (u1\_struct\_0 X2)) \Rightarrow \\ & (r1\_group\_2 X0 X3 (k9\_group\_2 X0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((m1\_group\_2 X1 X0) \wedge \\ & (m1\_group\_2 X2 X0))) \Rightarrow (k10\_group\_2 X0 X1 X2 = k9\_group\_2 X0 X1 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((m1\_group\_2 X1 X0) \wedge \\ & (m1\_group\_2 X2 X0))) \Rightarrow ((v15\_algstr\_0 (k10\_group\_2 X0 X1 X2)) \wedge ( \\ & m1\_group\_2 (k10\_group\_2 X0 X1 X2) X0)) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1\_group\_2 X2 X0) \Rightarrow (u1\_struct\_0 (k10\_group\_2 X0 X1 X2) = k3\_xboole\_0 \\ & (u1\_struct\_0 X1) (u1\_struct\_0 X2)))) \end{aligned}$$