

## t41\_robbins1

(TMV2u6gUEDyWKtJDQYCS6tC5nT6Gmvo93mr)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v4\_lattices : \iota \Rightarrow o$  be given. Let  $v5\_lattices : \iota \Rightarrow o$  be given. Let  $l2\_robbins1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices X0) \wedge ((v5\_lattices \\ X0) \wedge ((v5\_robbins1 X0) \wedge (l2\_robbins1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (k9\_robbins1 X0 (k12\_robbins1 X0 X1) (k11\_robbins1 \\ X0 X1) = X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices X0) \wedge ((v5\_lattices \\ X0) \wedge ((v5\_robbins1 X0) \wedge (l2\_robbins1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (k9\_robbins1 X0 (k5\_robbins1 X0 X1 X2) (k9\_robbins1 X0 X1 X2) = \\ X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ X0) \wedge (l2\_robbins1 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (k5\_robbins1 X0 X1 X2 = k1\_lattices \\ X0 X1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l2\_robbins1 X0)) \wedge \\ (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k12\_robbins1 \\ X0 X1) (u1\_struct\_0 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l2\_robbins1 X0)) \wedge \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k11\_robbins1 \\ & X0 X1) (u1\_struct\_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_robbins1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k14\_robbins1 X0 X1 = k1\_lattices \\ & X0 (k11\_robbins1 X0 X1) (k12\_robbins1 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ & X0) \wedge (l2\_robbins1 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (k5\_robbins1 X0 X1 X2 = k5\_robbins1 \\ & X0 X2 X1) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices X0) \wedge ((v5\_lattices \\ & X0) \wedge ((v5\_robbins1 X0) \wedge (l2\_robbins1 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (k9\_robbins1 X0 (k14\_robbins1 X0 X1) X1 = k11\_robbins1 \\ & X0 X1)) \end{aligned}$$