

# t20\_autgroup (TMHmN- MgWy34SvsnYiC5o4Mz1Pfwcsp956Tw)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  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  $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_autgroup : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_autgroup : \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_autgroup : \iota \Rightarrow \iota$  be given. Let  $k3\_autgroup : \iota \Rightarrow \iota$  be given. Let  $v1\_group\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2. (m1\_group\_2 X2 X0) \Rightarrow (\forall X3. (m1\_subset\_1 \\ X3 (u1\_struct\_0 X2)) \Rightarrow ((X3 = X1) \Rightarrow (k2\_group\_1 X2 X3 = k2\_group\_1 X0 \\ X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge (l3\_algstr\_0 \\ X0))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow (\forall X2. (m1\_subset\_1 \\ X2 (u1\_struct\_0 X1)) \Rightarrow (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge ((v2\_group\_1 \\ X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow (\forall X1. (m2\_funct\_2 \\ X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k4\_autgroup X0)) \Rightarrow (m2\_funct\_2 \\ X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k1\_autgroup X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge ((v2\_group\_1 \\ X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow (\forall X1. (m2\_funct\_2 \\ X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k1\_autgroup X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k3\_autgroup X0))) \Rightarrow ((X1 = X2) \Rightarrow (k2\_funct\_1 \\ X1 = k2\_group\_1 (k3\_autgroup X0) X2)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow ((v15\_algstr\_0 (k5\_autgroup X0)) \wedge ((v1\_group\_3 (k5\_autgroup X0) (k3\_autgroup X0)) \wedge (m1\_group\_2 (k5\_autgroup X0) (k3\_autgroup X0)))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow ((\neg v2\_struct\_0 (k3\_autgroup X0)) \wedge ((v15\_algstr\_0 (k3\_autgroup X0)) \wedge ((v2\_group\_1 (k3\_autgroup X0)) \wedge ((v3\_group\_1 (k3\_autgroup X0)) \wedge (l3\_algstr\_0 (k3\_autgroup X0))))))) \quad (6)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))))) \Rightarrow (\forall X1.(m2\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k4\_autgroup X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k5\_autgroup X0)) \Rightarrow ((X1 = X2) \Rightarrow (k2\_funct\_1 X1 = k2\_group\_1 (k5\_autgroup X0) X2))))))$$