

t4_gcd_1

(TMabGa2fPXY6ajEyRJxkSBtYGoj2TRSCcCa)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_gcd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_gcd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge (l4_algstr_0 \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r1_gcd_1 X0 X1 X2) \wedge (r1_gcd_1 X0 X2 X3)) \Rightarrow (\\ & r1_gcd_1 X0 X1 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l4_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow ((r3_gcd_1 X0 X1 X2) \Leftrightarrow ((r1_gcd_1 X0 X1 X2) \wedge (r1_gcd_1 \\ & X0 X2 X1)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge (l4_algstr_0 \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r3_gcd_1 X0 X1 X2) \wedge (r3_gcd_1 X0 X2 X3)) \Rightarrow (\\ & r3_gcd_1 X0 X1 X3)))))) \end{aligned}$$