

t23_gcd_1 (TM-
MyY3T6iwyWWxCHDWH3u1rKxY8gWP5U7Yi)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $m2_gcd_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r4_gcd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_gcd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge (l4_algstr_0 X0)))) \Rightarrow (\forall X1.(m2_gcd_1 X1 X0) \Rightarrow ((k5_struct_0 \\ & X0 \in X1) \wedge ((\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3. \\ & (m2_subset_1 X3 (u1_struct_0 X0) X1) \wedge (r4_gcd_1 X0 X3 X2))) \wedge (\forall X2. \\ & (m2_subset_1 X2 (u1_struct_0 X0) X1) \Rightarrow (\forall X3.(m2_subset_1 \\ & X3 (u1_struct_0 X0) X1) \Rightarrow (\neg(X2 \neq X3) \wedge (r3_gcd_1 X0 X2 X3))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge (l4_algstr_0 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r4_gcd_1 X0 X1 X2) \Leftrightarrow (r3_gcd_1 \\ & X0 X1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge (l4_algstr_0 X0)))) \Rightarrow (\forall X1.(m2_gcd_1 X1 X0) \Rightarrow ((\neg v1_xboole_0 \\ & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (5)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge (l4_algstr_0 X0)))) \Rightarrow (\forall X1.(m2_gcd_1 X1 X0) \Rightarrow (\forall X2.(m2_subset_1 X2 (u1_struct_0 X0) X1) \Rightarrow (\forall X3.(m2_subset_1 X3 (u1_struct_0 X0) X1) \Rightarrow ((r4_gcd_1 X0 X2 X3) \Rightarrow (X2 = X3)))))$$