

t21_facirc_2 (TMbWxjRxU-
AAiFNC6f8Lf9C3SN5HsnXyw7En)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $r1_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Leftrightarrow (k4_xboole_0 X0 X1 = X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_xboole_0 (k4_xboole_0 X0 X1) X1 \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow ((r1_circcomb X0 X1) \Rightarrow (\\ k2_msafree2 (k2_circcomb X0 X1) = k2_xboole_0 (k4_xboole_0 (k2_msafree2 \\ X0) (k3_msafree2 X1)) (k4_xboole_0 (k2_msafree2 X1) (k3_msafree2 \\ X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X0 = X0 \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (k3_msafree2 \\ X0 = k2_relset_1 (u1_struct_0 X0) (u2_msualg_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (k2_msafree2 X0 = k6_subset_1 (u1_struct_0 X0) (k2_relset_1 (u1_struct_0 X0) (u2_msualg_1 X0))) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (((r1_circcomb X0 X1) \wedge (k2_msafree2 X0 = k2_msafree2 X1)) \Rightarrow (k2_msafree2 (k2_circcomb X0 X1) = k2_msafree2 X0)))$$