t17_facirc_1 (TMQrkvcMG7aLEvJtvTzJXKQUeQjvGZU8Fx9)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_msafree2 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_msafree2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_facirc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k5\_facirc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_msafree2\ X0) \wedge (l1\_msualg\_1\ X0)))) \Rightarrow (\forall X1.((v4\_msualg\_1\ X1\ X0) \wedge ((v4\_msafree2\ X1\ X0) \wedge (l3\_msualg\_1\ X1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k4\_card\_3\ (u3\_msualg\_1\ X0\ X1))) \Rightarrow (\forall X3.(v7\_ordinal1\ X3) \Rightarrow (\forall X4.(v7\_ordinal1\ X4) \Rightarrow (k5\_facirc\_1\ X0\ X1\ X2\ (k2\_xcmplx\_0\ X3\ X4) = k5\_facirc\_1\ X0\ X1\ (k5\_facirc\_1\ X0\ X1\ X2\ X3)\ X4))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (v7\_ordinal1\ (k2\_xcmplx\_0\ X0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_msafree2\ X0) \wedge (l1\_msualg\_1\ X0)))) \wedge (((v4\_msualg\_1\ X1\ X0) \wedge ((v4\_msafree2\ X1\ X0) \wedge (l3\_msualg\_1\ X1\ X0))) \wedge ((m1\_subset\_1\ X2\ (k4\_card\_3\ (u3\_msualg\_1\ X0\ X1))) \wedge (v7\_ordinal1\ X3)))) \Rightarrow (m1\_subset\_1\ (k5\_facirc\_1\ X0\ X1\ X2\ X3)\ (k4\_card\_3\ (u3\_msualg\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v2\_msafree2\ X0)\wedge(l1\_msualg\_1\ X0))))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge((v4\_msafree2\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k4\_card\_3\ (u3\_msualg\_1\ X0\ X1)))\Rightarrow(\forall X3.(r1\_facirc\_1\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow(k1\_funct\_1\ (k5\_facirc\_1\ X0\ X1\ X2\ X4)\ X3 = k1\_funct\_1\ X2\ X3))))) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v2\_msafree2\ X0)\wedge(l1\_msualg\_1\ X0))))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge((v4\_msafree2\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k4\_card\_3\ (u3\_msualg\_1\ X0\ X1)))\Rightarrow(\forall X3.(r1\_facirc\_1\ X0\ X1\ X2\ X3)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow(r1\_facirc\_1\ X0\ X1\ (k5\_facirc\_1\ X0\ X1\ X2\ X4)\ X3)))))$$