t105_rewrite3 (TMRg9DMTvb2NZFS9pXDC5USNeEVLcUXzWcs)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_rewrite3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(\neg v1\_xboole\_0\ X3) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X3))) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X3))) \Rightarrow (\forall X6.((\neg v2\_struct\_0\ X6) \wedge (l1\_rewrite3\ X6\ X4)) \Rightarrow (\forall X7.((\neg v2\_struct\_0\ X7) \wedge (l1\_rewrite3\ X7\ X5)) \Rightarrow (((u1\_struct\_0\ X6 = u1\_struct\_0\ X7) \wedge ((u1\_rewrite3\ X4\ X6 = u1\_rewrite3\ X5\ X7) \wedge (r4\_rewrite3\ X3\ X4\ X6\ X0\ X1\ X2))) \Rightarrow (r4\_rewrite3\ X3\ X5\ X7\ X0\ X1\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(\forall X2.(X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X2))) \Rightarrow (\forall X4.((\neg v2\_struct\_0\ X4) \wedge (l1\_rewrite3\ X4\ X3)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X4)) \Rightarrow ((X5 \in k3\_rewrite3\ X2\ X3\ X4\ X0\ X1) \Leftrightarrow (\exists X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X4)) \wedge ((X6 \in X1) \wedge (r4\_rewrite3\ X2\ X3\ X4\ X6\ X0\ X5))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0)))\wedge((\neg v2\_struct\_0\ X2)\wedge(l1\_rewrite3\ X2\ X1))))\Rightarrow(m1\_subset\_1\ (k3\_rewrite3\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X2))) \tag{5}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.\ (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X2)))\Rightarrow(\forall X4.\ (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X2)))\Rightarrow(\forall X5.\ ((\neg v2\_struct\_0\ X5)\wedge(l1\_rewrite3\ X5\ X3))\Rightarrow(\forall X6.((\neg v2\_struct\_0\ X6)\wedge(l1\_rewrite3\ X6\ X4))\Rightarrow(((u1\_struct\_0\ X5 = u1\_struct\_0\ X6)\wedge(u1\_rewrite3\ X3\ X5 = u1\_rewrite3\ X4\ X6))\Rightarrow(k3\_rewrite3\ X2\ X3\ X5\ X0\ X1 = k3\_rewrite3\ X2\ X4\ X6\ X0\ X1))))))$$