t22_twoscomp (TMHfUVc-SXXhSv7HDWPRhUJeyxQQ6M58r1uc)

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Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25\_twoscomp : \iota$ be given. Let $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $np\_\_0 : \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_margrel1 : \iota$ be given. Let $k2\_xboolean : \iota$ be given. Let $k7\_margrel1 : \iota$ be given. Let $k1\_xboolean : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_margrel1 : \iota$ be given. Let $k1\_binarith : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboolean : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboolean : \iota \Rightarrow \iota$ be given. Let $k4\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{2}$$

Assume the following.

$$k3\_xcmplx\_0\ np\_\_0\ np\_\_1 = np\_\_0 \tag{3}$$

Assume the following.

$$k6\_xcmplx\_0\ np\_\_1\ np\_\_1 = np\_\_0 \tag{4}$$

Assume the following.

$$k6\_xcmplx\_0\ np\_\_1\ np\_\_0 = np\_\_1 \tag{5}$$

Assume the following.

$$k8\_margrel1 = k2\_xboolean \tag{6}$$

Assume the following.

$$k7\_margrel1 = k1\_xboolean \tag{7}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X1\ k6\_margrel1))\Rightarrow(k1\_binarith\ X0\ X1 = k5\_xboolean\ X0\ X1) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xboolean\ X0)\wedge(v1\_xboolean\ X1))\Rightarrow(k5\_xboolean\ X0\ X0 = X0) \tag{10}$$

Assume the following.

$$v1\_xboolean\ k2\_xboolean \tag{11}$$

Assume the following.

$$v1\_xboolean\ k1\_xboolean \tag{12}$$

Assume the following.

$$m1\_subset\_1\ k8\_margrel1\ k6\_margrel1 \tag{13}$$

Assume the following.

$$m1\_subset\_1\ k7\_margrel1\ k6\_margrel1 \tag{14}$$

Assume the following.

$$(v1\_funct\_1\ k25\_twoscomp)\wedge((v1\_funct\_2\ k25\_twoscomp\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ k25\_twoscomp\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)))) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xboolean\ X0)\Rightarrow(\forall X1.(v1\_xboolean\ X1)\Rightarrow(k5\_xboolean\ X0\ X1 = k3\_xboolean\ (k4\_xboolean\ (k3\_xboolean\ X0)\ (k3\_xboolean\ X1)))) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_xboolean\ X0)\Rightarrow(\forall X1.(v1\_xboolean\ X1)\Rightarrow(k4\_xboolean\ X0\ X1 = k3\_xcmplx\_0\ X0\ X1)) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xboolean\ X0)\Rightarrow(k3\_xboolean\ X0 = k6\_xcmplx\_0\ np\_\_1\ X0) \tag{18}$$

Assume the following.

$$k2\_xboolean = np\_\_1 \tag{19}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)))))\Rightarrow((X0 = k25\_twoscomp)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ k6\_margrel1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k6\_margrel1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ k6\_margrel1)\Rightarrow(k1\_funct\_1\ X0\ (k11\_finseq\_1\ X1\ X2\ X3) = k1\_binarith\ (k1\_binarith\ X1\ X2)\ X3)))))) \tag{20}$$

Assume the following.

$$k1\_xboolean = k6\_numbers \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X1\ k6\_margrel1))\Rightarrow(k1\_binarith\ X0\ X1 = k1\_binarith\ X1\ X0) \tag{22}$$

Theorem 1

$$(k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ k6\_numbers\ k6\_numbers\ k6\_numbers) = k6\_numbers)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ k6\_numbers\ k6\_numbers\ np\_\_1) = np\_\_1)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ k6\_numbers\ np\_\_1\ k6\_numbers) = np\_\_1)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ k6\_numbers\ np\_\_1\ np\_\_1) = np\_\_1)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ np\_\_1\ k6\_numbers\ k6\_numbers) = np\_\_1)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ np\_\_1\ k6\_numbers\ np\_\_1) = np\_\_1)\wedge((k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ np\_\_1\ np\_\_1\ k6\_numbers) = np\_\_1)\wedge(k1\_funct\_1\ k25\_twoscomp\ (k11\_finseq\_1\ np\_\_1\ np\_\_1\ np\_\_1) = np\_\_1)))))))$$