

t26_filter_1 (TMXcVuvADNGLbHFkMevVs- nTpd9P3pY6KvyX)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_filter_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X1) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 \\
& X0) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge ((v1_funct_2 X5 (\\
& k2_zfmisc_1 X1 X1) X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (((r2_binop_1 X0 X2 X4) \wedge (r2_binop_1 \\
& X1 X3 X5)) \Leftrightarrow (r2_binop_1 (k2_zfmisc_1 X0 X1) (k1_domain_1 X0 X1 X2 \\
& X3) (k6_filter_1 X0 X1 X4 X5))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X1) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 \\
& X0) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge ((v1_funct_2 X5 (\\
& k2_zfmisc_1 X1 X1) X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (((r1_binop_1 X0 X2 X4) \wedge (r1_binop_1 \\
& X1 X3 X5)) \Leftrightarrow (r1_binop_1 (k2_zfmisc_1 X0 X1) (k1_domain_1 X0 X1 X2 \\
& X3) (k6_filter_1 X0 X1 X4 X5))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X3)\wedge((\\ & v1_funct_2 X3 (k2_zfmisc_1 X1 X1) X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1))))))\Rightarrow((v1_funct_1 (k6_filter_1 \\ & X0 X1 X2 X3)\wedge((v1_funct_2 (k6_filter_1 X0 X1 X2 X3) (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X0 X1)) (k2_zfmisc_1 X0 X1))\wedge(\\ & m1_subset_1 (k6_filter_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X0 X1)) (k2_zfmisc_1 \\ & X0 X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X1))))\Rightarrow \\ & (m1_subset_1 (k1_domain_1 X0 X1 X2 X3) (k2_zfmisc_1 X0 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 X0)\Rightarrow(\forall X2.((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\Rightarrow((r3_binop_1 X0 X1 X2)\Leftrightarrow \\ & ((r1_binop_1 X0 X1 X2)\wedge(r2_binop_1 X0 X1 X2)))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0)\Rightarrow(\forall X3.(m1_subset_1 X3 X1)\Rightarrow \\ & (\forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 X4 (k2_zfmisc_1 X0 \\ & X0) X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0))))\Rightarrow(\forall X5.((v1_funct_1 X5)\wedge((v1_funct_2 X5 (\\ & k2_zfmisc_1 X1 X1) X1)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X1 X1) X1))))\Rightarrow(((r3_binop_1 X0 X2 X4)\wedge(r3_binop_1 \\ & X1 X3 X5)\Leftrightarrow(r3_binop_1 (k2_zfmisc_1 X0 X1) (k1_domain_1 X0 X1 X2 \\ & X3) (k6_filter_1 X0 X1 X4 X5))))))))) \end{aligned}$$