

# t28\_realset3 (TMdaZTPrsX- PCZ3myKKanLo8urGAuRW4veLb)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v33\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_realset2 : \iota \Rightarrow \iota$  be given. Let  $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_realset3 : \iota \Rightarrow \iota$  be given. Let  $v1\_realset2 : \iota \Rightarrow o$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_realset2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k8\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
 & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge \\
 & ((v1\_realset2 X0) \wedge (l6\_algstr\_0 X0))))))) \Rightarrow (\forall X1. (m2\_subset\_1 \\
 & X1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) \Rightarrow ((k6\_algstr\_0 X0 X1 (k5\_struct\_0 \\
 & X0) = X1) \wedge (k6\_algstr\_0 X0 (k5\_struct\_0 X0) X1 = X1)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m2\_subset\_1 X3 (u1\_struct\_0 X0) \\
& (k8\_struct\_0 X0)) \Rightarrow (\forall X4.(m2\_subset\_1 X4 (u1\_struct\_0 X0) \\
& (k8\_struct\_0 X0)) \Rightarrow ((k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k2\_realset3 X0) X1 X3 = k2\_binop\_1 (u1\_struct\_0 \\
& X0) (k8\_struct\_0 X0) (u1\_struct\_0 X0) (k2\_realset3 X0) X2 X4) \Leftrightarrow ( \\
& k5\_binop\_1 (u1\_struct\_0 X0) (k4\_realset2 X0) X1 X4 = k5\_binop\_1 \\
& (u1\_struct\_0 X0) (k4\_realset2 X0) X3 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) \Rightarrow (X1 = k3\_funct\_2 \\
& (k8\_struct\_0 X0) (k8\_struct\_0 X0) (k5\_realset2 X0) (k3\_funct\_2 \\
& (k8\_struct\_0 X0) (k8\_struct\_0 X0) (k5\_realset2 X0) X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) \Rightarrow ((k5\_binop\_1 \\
& (u1\_struct\_0 X0) (k4\_realset2 X0) X1 (k2\_binop\_1 (u1\_struct\_0 \\
& X0) (k8\_struct\_0 X0) (u1\_struct\_0 X0) (k2\_realset3 X0) (k5\_struct\_0 \\
& X0) X1) = k5\_struct\_0 X0) \wedge (k5\_binop\_1 (u1\_struct\_0 X0) (k4\_realset2 \\
& X0) (k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0) (u1\_struct\_0 \\
& X0) (k2\_realset3 X0) (k5\_struct\_0 X0) X1) X1 = k5\_struct\_0 X0)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m2\_subset\_1 X3 (u1\_struct\_0 X0) \\
& (k8\_struct\_0 X0)) \Rightarrow (k5\_binop\_1 (u1\_struct\_0 X0) (k4\_realset2 \\
& X0) X1 (k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0) (u1\_struct\_0 \\
& X0) (k2\_realset3 X0) X2 X3) = k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k2\_realset3 X0) (k5\_binop\_1 (u1\_struct\_0 \\
& X0) (k4\_realset2 X0) X1 X2) X3)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge \\
& ((v1\_realset2 X0) \wedge (l6\_algstr\_0 X0)))))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 (u1\_struct\_0 X0)) \Rightarrow ((k6\_algstr\_0 X0 X1 (k5\_struct\_0 X0) = X1) \wedge \\
& (k6\_algstr\_0 X0 (k5\_struct\_0 X0) X1 = X1)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\
& ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\
& X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (u1\_struct\_0 X0)) \Rightarrow (m1\_subset\_1 (k5\_binop\_1 (u1\_struct\_0 X0) \\
& (k4\_realset2 X0) X1 X2) (u1\_struct\_0 X0)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v5\_group\_1 \\
& X0) \wedge (l3\_algstr\_0 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\
& m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (k8\_group\_1 X0 X1 X2 = k6\_algstr\_0 \\
& X0 X1 X2)
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X1)\wedge \\ & ((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))\wedge((m1\_subset\_1 X2 X0)\wedge \\ & (m1\_subset\_1 X3 X0)))\Rightarrow(k5\_binop\_1 X0 X1 X2 X3 = k1\_binop\_1 X1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(((v1\_funct\_1 X3)\wedge( \\ & v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X1) X2)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2)))))\wedge((m1\_subset\_1 X4 X0)\wedge \\ & (m1\_subset\_1 X5 X1))))\Rightarrow(k2\_binop\_1 X0 X1 X2 X3 X4 X5 = k1\_binop\_1 \\ & X3 X4 X5) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (k8\_struct\_0 X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3\_algstr\_0 X0)\Rightarrow((v1\_funct\_1 (u2\_algstr\_0 X0))\wedge \\ & ((v1\_funct\_2 (u2\_algstr\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ & u1\_struct\_0 X0)) (u1\_struct\_0 X0))\wedge(m1\_subset\_1 (u2\_algstr\_0 \\ & X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ & u1\_struct\_0 X0)) (u1\_struct\_0 X0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 \\ & X2 X0 X1)\Rightarrow(m1\_subset\_1 X2 X0)) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l5\_algstr\_0 X0)\Rightarrow((l4\_algstr\_0 X0)\wedge(l4\_struct\_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(l4\_struct\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l3\_struct\_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \quad (19)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (21)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k8\_struct\_0 X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\ & X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow ((v1\_funct\_1 \\ & (k5\_realset2 X0)) \wedge ((v1\_funct\_2 (k5\_realset2 X0) (k8\_struct\_0 \\ & X0) (k8\_struct\_0 X0)) \wedge (m1\_subset\_1 (k5\_realset2 X0) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k8\_struct\_0 X0) (k8\_struct\_0 X0)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. (& \neg v1\_xboole\_0 X0) \wedge \\ & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0)) \Rightarrow (m1\_subset\_1 ( \\ & k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\ & X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow ((v1\_funct\_1 \\ & (k2\_realset3 X0)) \wedge ((v1\_funct\_2 (k2\_realset3 X0) (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X0) (k8\_struct\_0 X0)) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 \\ & (k2\_realset3 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (k8\_struct\_0 X0)) (u1\_struct\_0 X0)))))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& ((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X1) X2)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) X2))))\wedge((m1\_subset\_1 X4 X0)\wedge(m1\_subset\_1 X5 X1))))))\Rightarrow(m1\_subset\_1 (k2\_binop\_1 X0 X1 X2 X3 X4 X5) X2)
\end{aligned} \tag{26}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v33\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge(l6\_algstr\_0 X0))))))))))\Rightarrow(\forall X1. \\
& ((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 (k8\_struct\_0 X0) (k8\_struct\_0 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k8\_struct\_0 X0) (k8\_struct\_0 X0))))\Rightarrow((X1 = k5\_realset2 X0)\Leftrightarrow(\forall X2. \\
& (m2\_subset\_1 X2 (u1\_struct\_0 X0) (k8\_struct\_0 X0))\Rightarrow(k1\_binop\_1 (k4\_realset2 X0) X2 (k3\_funct\_2 (k8\_struct\_0 X0) (k8\_struct\_0 X0) X1 X2) = k5\_struct\_0 X0))))
\end{aligned} \tag{27}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge((v1\_realset2 X0)\wedge(l6\_algstr\_0 X0))))))\Rightarrow(k4\_realset2 X0 = u2\_algstr\_0 X0)
\end{aligned} \tag{28}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v33\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge(l6\_algstr\_0 X0))))))))))\Rightarrow(\forall X1. \\
& ((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) (u1\_struct\_0 X0))))\Rightarrow((X1 = k2\_realset3 X0)\Leftrightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m2\_subset\_1 X3 (u1\_struct\_0 X0) (k8\_struct\_0 X0))\Rightarrow(k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0) (u1\_struct\_0 X0) X1 X2 X3 = k1\_binop\_1 (k4\_realset2 X0) X2 (k3\_funct\_2 (k8\_struct\_0 X0) (k8\_struct\_0 X0) (k5\_realset2 X0) X3))))))
\end{aligned} \tag{29}$$

Assume the following.

$$\begin{aligned} \forall X0.(l3\_algstr\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k6\_algstr\_0 \\ X0 X1 X2 = k5\_binop\_1 (u1\_struct\_0 X0) (u2\_algstr\_0 X0) X1 X2))) \end{aligned} \quad (30)$$

Assume the following.

$$\forall X0.(l4\_struct\_0 X0) \Rightarrow ((\neg v6\_struct\_0 X0) \Rightarrow (\neg v7\_struct\_0 X0)) \quad (31)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6\_algstr\_0 X0) \Rightarrow (((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\ X0) \wedge (v5\_vectsp\_1 X0)))))))))) \Rightarrow ((\neg v6\_struct\_0 X0) \wedge (v1\_realset2 \\ X0))) \end{aligned} \quad (32)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 \\ X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\ (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k8\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow ((k5\_binop\_1 (u1\_struct\_0 X0) (k4\_realset2 \\ X0) X1 X2 = X3) \Leftrightarrow (k2\_binop\_1 (u1\_struct\_0 X0) (k8\_struct\_0 X0) (u1\_struct\_0 \\ X0) (k2\_realset3 X0) X3 X1 = X2)))))) \end{aligned}$$