

# t56\_vfunct\_2 (TMVt- STH5C2cLybgdYEaSXCyqgaHLWPKuPGR)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  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  $v3\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v4\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v2\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_vfunct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_vfunct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\
 & ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
 & X1) \wedge ((v3\_normsp\_0 X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_clvect\_1 X1) \wedge \\
 & ((v3\_clvect\_1 X1) \wedge ((v4\_clvect\_1 X1) \wedge ((v5\_clvect\_1 X1) \wedge ((v8\_clvect\_1 \\
 & X1) \wedge (l2\_clvect\_1 X1)))))))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\
 & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 \\
 & X1)))) \Rightarrow (\forall X3. (v3\_funct\_1 (k2\_partfun1 X0 (u1\_struct\_0 \\
 & X1) X2 X3)) \Rightarrow (r1\_vfunct\_2 X0 X1 X2 X3)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v3\_normsp\_0 X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_clvect\_1 X1) \wedge \\
& ((v3\_clvect\_1 X1) \wedge ((v4\_clvect\_1 X1) \wedge ((v5\_clvect\_1 X1) \wedge ((v8\_clvect\_1 \\
& X1) \wedge (l2\_clvect\_1 X1)))))))))) \Rightarrow (\forall X2.((v1\_funct\_1 \\
& X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 \\
& X1)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow (\forall X4.\forall X5. \\
& ((r1\_vfunct\_2 X0 X1 X2 X4) \wedge (r1\_vfunct\_2 X0 X1 X3 X5)) \Rightarrow (r1\_vfunct\_2 \\
& X0 X1 (k3\_vfunct\_2 X0 X1 X2 X3) (k3\_xboole\_0 X4 X5))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v3\_normsp\_0 X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_clvect\_1 X1) \wedge \\
& ((v3\_clvect\_1 X1) \wedge ((v4\_clvect\_1 X1) \wedge ((v5\_clvect\_1 X1) \wedge ((v8\_clvect\_1 \\
& X1) \wedge (l2\_clvect\_1 X1)))))))))) \Rightarrow (\forall X2.((v1\_funct\_1 \\
& X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 \\
& X1)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow (\forall X4.\forall X5. \\
& ((r1\_vfunct\_2 X0 X1 X2 X4) \wedge (v3\_funct\_1 (k2\_partfun1 X0 (u1\_struct\_0 \\
& X1) X3 X5)) \Rightarrow (r1\_vfunct\_2 X0 X1 (k3\_vfunct\_2 X0 X1 X2 X3) (k3\_xboole\_0 \\
& X4 X5))))))
\end{aligned}$$