

## t28\_normsp\_2

(TMPn9QQvMX14BbuYh2KxFjDgx7NmoCPR7dr)

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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  $v5\_rlvect.1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect.1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect.1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect.1 : \iota \Rightarrow o$  be given. Let  $v3\_normsp.0 : \iota \Rightarrow o$  be given. Let  $v4\_normsp.0 : \iota \Rightarrow o$  be given. Let  $v2\_normsp.1 : \iota \Rightarrow o$  be given. Let  $l1\_normsp.1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $u1\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $k3\_normsp.2 : \iota \Rightarrow \iota$  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  $k4\_normsp.2 : \iota \Rightarrow \iota$  be given. Let  $r1\_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_frechet : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_frechet : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_frechet2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $r1\_frechet : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v8\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k6\_domain.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $g1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $g1\_metric.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_struct.0 : \iota \Rightarrow o$  be given. Let  $v6\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $v7\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_metric.1 : \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k3\_pcomps.1 : \iota \Rightarrow \iota$  be given. Let  $v6\_metric.1 : \iota \Rightarrow o$  be given. Let  $v7\_metric.1 : \iota \Rightarrow o$  be given. Let  $v8\_metric.1 : \iota \Rightarrow o$  be given. Let  $v9\_metric.1 : \iota \Rightarrow o$  be given. Let  $l2\_normsp.0 : \iota \Rightarrow o$  be given. Let  $l1\_normsp.0 : \iota \Rightarrow o$  be given. Let  $l2\_struct.0 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect.1 : \iota \Rightarrow o$  be given. Let  $k2\_pcomps.1 : \iota \Rightarrow \iota$  be given. Let  $k2\_normsp.2 : \iota \Rightarrow \iota$  be given. Let  $k1\_normsp.2 : \iota \Rightarrow \iota$  be given. Let  $v1\_metric.1 : \iota \Rightarrow o$  be given. Let  $k4\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $u1\_algstr.0 : \iota \Rightarrow \iota$  be given. Let  $u1\_rlvect.1 : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $u1\_metric.1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset.1 X1 (k1\_zfmisc.1 X2))) \Rightarrow (m1\_subset.1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset.1 X0 X1) \Rightarrow ((v1\_xboole.0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& (k3\_normsp\_2 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers (u1\_struct\_0 (k3\_normsp\_2 X0)))))) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\
& X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 (k4\_normsp\_2 X0)))))) \Rightarrow ((r1\_funct\_2 k5\_numbers \\
& (u1\_struct\_0 (k3\_normsp\_2 X0)) k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\
& X0)) X1 X2) \Rightarrow ((v2\_frechet X2 (k4\_normsp\_2 X0)) \Leftrightarrow (v2\_frechet X1 ( \\
& k3\_normsp\_2 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& (k3\_normsp\_2 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers (u1\_struct\_0 (k3\_normsp\_2 X0)))))) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\
& X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 (k4\_normsp\_2 X0)))))) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 (k3\_normsp\_2 X0))) \Rightarrow (\forall X4.(m1\_subset\_1 \\
& X4 (u1\_struct\_0 (k4\_normsp\_2 X0))) \Rightarrow (((r1\_funct\_2 k5\_numbers \\
& (u1\_struct\_0 (k3\_normsp\_2 X0)) k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\
& X0)) X1 X2) \wedge (X3 = X4) \Rightarrow ((r1\_frechet (k4\_normsp\_2 X0) X2 X4) \Leftrightarrow (r1\_frechet \\
& (k3\_normsp\_2 X0) X1 X3))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow ((v8\_pre\_topc X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\
& X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow (\forall X2.( \\
& m1\_subset\_1 X2 (u1\_struct\_0 X0) \Rightarrow ((r1\_frechet X0 X1 X2) \Leftrightarrow ((v2\_frechet \\
& X1 X0) \wedge (X2 = k2\_frechet2 X0 X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ X0))) \Rightarrow ((v8\_pre\_topc X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ X1 \ k5\_numbers \ (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 \ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 \ k5\_numbers \ (u1\_struct\_0 X0)))))) \Rightarrow (\neg(v2\_frechet \\ X1 \ X0) \wedge (\forall X2.(m1\_subset\_1 X2 \ (u1\_struct\_0 X0)) \Rightarrow (k2\_frechet \\ X0 \ X1 \neq k6\_domain\_1 \ (u1\_struct\_0 X0) \ X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X3) \wedge (((v1\_funct\_1 X4) \wedge (( \\ v1\_funct\_2 X4 \ X0 \ X1) \wedge (m1\_subset\_1 X4 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ X0 \ X1)))))) \wedge ((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 \ X2 \ X3) \wedge (m1\_subset\_1 \\ X5 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X2 \ X3)))))) \Rightarrow ((r1\_funct\_2 X0 \ X1 \\ X2 \ X3 \ X4 \ X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 \ X0)) \Rightarrow (k6\_domain\_1 X0 \ X1 = k1\_tarski X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 \ (k1\_zfmisc\_1 \ (k1\_zfmisc\_1 \\ X0))) \Rightarrow (\forall X2. \forall X3. (g1\_pre\_topc X0 \ X1 = g1\_pre\_topc \\ X2 \ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 \ (k2\_zfmisc\_1 \\ X0 \ X0) \ k1\_numbers) \wedge (m1\_subset\_1 X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ (k2\_zfmisc\_1 \ X0 \ X0) \ k1\_numbers)))))) \Rightarrow (\forall X2. \forall X3. ( \\ g1\_metric\_1 X0 \ X1 = g1\_metric\_1 X2 \ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ ((\neg v2\_struct\_0 (k4\_normsp\_2 X0)) \wedge ((v8\_pre\_topc (k4\_normsp\_2 \\ X0)) \wedge (v5\_rltopsp1 (k4\_normsp\_2 X0)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_tarski X0) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ & X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ & ((\neg v2\_struct\_0 (k4\_normsp\_2 X0)) \wedge ((v2\_pre\_topc (k4\_normsp\_2 \\ & X0)) \wedge ((v13\_algstr\_0 (k4\_normsp\_2 X0)) \wedge ((v2\_rlvect\_1 (k4\_normsp\_2 \\ & X0)) \wedge ((v3\_rlvect\_1 (k4\_normsp\_2 X0)) \wedge ((v4\_rlvect\_1 (k4\_normsp\_2 \\ & X0)) \wedge ((v5\_rlvect\_1 (k4\_normsp\_2 X0)) \wedge ((v6\_rlvect\_1 (k4\_normsp\_2 \\ & X0)) \wedge ((v7\_rlvect\_1 (k4\_normsp\_2 X0)) \wedge ((v8\_rlvect\_1 (k4\_normsp\_2 \\ & X0)) \wedge ((v5\_rltopsp1 (k4\_normsp\_2 X0)) \wedge ((v6\_rltopsp1 (k4\_normsp\_2 \\ & X0)) \wedge (v7\_rltopsp1 (k4\_normsp\_2 X0)))))))))))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.(l1\_metric\_1 X0) \Rightarrow ((v1\_pre\_topc (k3\_pcomps\_1 X0)) \wedge (v2\_pre\_topc (k3\_pcomps\_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 X0)))))) \Rightarrow (v8\_pre\_topc (k3\_pcomps\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1 X1 X0 \quad (17)$$

Assume the following.

$$\forall X0.(l2\_normsp\_0 X0) \Rightarrow ((l1\_normsp\_0 X0) \wedge (l2\_struct\_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \quad (19)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l1\_normsp\_1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l2\_normsp\_0 X0)) \quad (21)$$

Assume the following.

$$\forall X0.(l1\_normsp\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ &X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ &((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ &X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ &((\neg v2\_struct\_0 (k4\_normsp\_2 X0)) \wedge ((v5\_rltopsp1 (k4\_normsp\_2 \\ &X0)) \wedge (l1\_rltopsp1 (k4\_normsp\_2 X0)))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ &X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ &((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ &X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ &((\neg v2\_struct\_0 (k3\_normsp\_2 X0)) \wedge ((v2\_pre\_topc (k3\_normsp\_2 \\ &X0)) \wedge (l1\_pre\_topc (k3\_normsp\_2 X0)))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0.(l1\_metric\_1 X0) \Rightarrow (m1\_subset\_1 (k2\_pcomps\_1 X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ &X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ &((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ &X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ &((\neg v2\_struct\_0 (k2\_normsp\_2 X0)) \wedge ((v6\_metric\_1 (k2\_normsp\_2 \\ &X0)) \wedge ((v7\_metric\_1 (k2\_normsp\_2 X0)) \wedge ((v8\_metric\_1 (k2\_normsp\_2 \\ &X0)) \wedge ((v9\_metric\_1 (k2\_normsp\_2 X0)) \wedge (l1\_metric\_1 (k2\_normsp\_2 \\ &X0)))))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (&((\neg v2\_struct\_0 X0) \wedge (l1\_pre\_topc X0)) \wedge \\ &((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ &(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\ &X0)))))) \Rightarrow (m1\_subset\_1 (k2\_frechet X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 \\ &X0))) \end{aligned} \quad (27)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& ((v1\_funct\_1 (k1\_normsp\_2 X0)) \wedge ((v1\_funct\_2 (k1\_normsp\_2 X0) \\
& (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) k1\_numbers) \wedge \\
& (m1\_subset\_1 (k1\_normsp\_2 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0)) k1\_numbers))))))
\end{aligned} \tag{28}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\
& X0 X0) k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow ((v1\_metric\_1 (g1\_metric\_1 \\
& X0 X1)) \wedge (l1\_metric\_1 (g1\_metric\_1 X0 X1)))
\end{aligned} \tag{29}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1\_metric\_1 X0) \Rightarrow (k3\_pcomps\_1 X0 = g1\_pre\_topc (u1\_struct\_0 \\
& X0) (k2\_pcomps\_1 X0))
\end{aligned} \tag{30}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0)))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \Rightarrow ((X2 = k2\_frechet X0 X1) \Leftrightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (r1\_frechet X0 X1 X3))))))
\end{aligned} \tag{31}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v5\_rltopsp1 X1) \wedge (l1\_rltopsp1 \\
& X1))) \Rightarrow ((X1 = k4\_normsp\_2 X0) \Leftrightarrow ((u1\_struct\_0 X1 = u1\_struct\_0 X0) \wedge \\
& ((k4\_struct\_0 X1 = k4\_struct\_0 X0) \wedge ((r1\_funct\_2 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X1) (u1\_struct\_0 X1)) (u1\_struct\_0 X1) (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 X0) (u1\_algstr\_0 \\
& X1) (u1\_algstr\_0 X0)) \wedge ((r1\_funct\_2 (k2\_zfmisc\_1 k1\_numbers ( \\
& u1\_struct\_0 X1)) (u1\_struct\_0 X1) (k2\_zfmisc\_1 k1\_numbers (u1\_struct\_0 \\
& X0)) (u1\_struct\_0 X0) (u1\_rlvect\_1 X1) (u1\_rlvect\_1 X0)) \wedge (u1\_pre\_topc \\
& X1 = u1\_pre\_topc (k3\_normsp\_2 X0))))))
\end{aligned} \tag{32}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (( \\ v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0)))))) \Rightarrow ((v2\_frechet \\ X1\ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \wedge (r1\_frechet \\ X0\ X1\ X2)))) \end{aligned} \quad (33)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1 \\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge \\ ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v3\_normsp\_0 \\ X0) \wedge ((v4\_normsp\_0\ X0) \wedge ((v2\_normsp\_1\ X0) \wedge (l1\_normsp\_1\ X0)))))))))) \Rightarrow \\ (k3\_normsp\_2\ X0 = k3\_pcomps\_1\ (k2\_normsp\_2\ X0)) \end{aligned} \quad (34)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1 \\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge \\ ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v3\_normsp\_0 \\ X0) \wedge ((v4\_normsp\_0\ X0) \wedge ((v2\_normsp\_1\ X0) \wedge (l1\_normsp\_1\ X0)))))))))) \Rightarrow \\ (k2\_normsp\_2\ X0 = g1\_metric\_1\ (u1\_struct\_0\ X0)\ (k1\_normsp\_2\ X0)) \end{aligned} \quad (35)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (36)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v1\_pre\_topc\ X0) \Rightarrow (X0 = g1\_pre\_topc\ (u1\_struct\_0\ X0)\ (u1\_pre\_topc\ X0))) \quad (37)$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0) \Rightarrow ((v1\_metric\_1\ X0) \Rightarrow (X0 = g1\_metric\_1\ (u1\_struct\_0\ X0)\ (u1\_metric\_1\ X0))) \quad (38)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\ & X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\ & (k3\_normsp\_2 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 (k3\_normsp\_2 X0)))))) \Rightarrow (\forall X2. \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\ & X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\ & u1\_struct\_0 (k4\_normsp\_2 X0)))))) \Rightarrow ((r1\_funct\_2 k5\_numbers \\ & (u1\_struct\_0 (k3\_normsp\_2 X0)) k5\_numbers (u1\_struct\_0 (k4\_normsp\_2 \\ & X0)) X1 X2) \wedge (v2\_frechet X2 (k4\_normsp\_2 X0))) \Rightarrow ((k2\_frechet (k3\_normsp\_2 \\ & X0) X1 = k2\_frechet (k4\_normsp\_2 X0) X2) \wedge (k2\_frechet2 (k3\_normsp\_2 \\ & X0) X1 = k2\_frechet2 (k4\_normsp\_2 X0) X2)))))) \end{aligned}$$