

t10\_incproj  
(TMUb8hxBGAZQfky7yUoHiKuMFZhGQZxz3Gi)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_collsp : \iota \Rightarrow o$  be given. Let  $v3\_collsp : \iota \Rightarrow o$  be given. Let  $v4\_collsp : \iota \Rightarrow o$  be given. Let  $l1\_collsp : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_incproj : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u2\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_incproj : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_incproj : \iota \Rightarrow \iota$  be given. Let  $m2\_collsp : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_incsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_incsp\_1 : \iota \Rightarrow o$  be given. Let  $u3\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_incproj : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ &((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ &X1 (u1\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ &(u1\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\exists X3. (m1\_subset\_1 X3 (u2\_incsp\_1 \\ &(k3\_incproj X0))) \wedge ((r1\_incsp\_1 (k3\_incproj X0) X1 X3) \wedge (r1\_incsp\_1 \\ &(k3\_incproj X0) X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ &((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ &X1 (u1\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ &(u2\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\ &X0)) \Rightarrow (\forall X4. (m1\_incproj X4 X0) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow ((r1\_incsp\_1 \\ &(k3\_incproj X0) X1 X2) \Leftrightarrow (X3 \in X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ &((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1. (m1\_incproj \\ &X1 X0) \Leftrightarrow (m1\_subset\_1 X1 (k1\_incproj X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\ (m2\_collsp X4 X0) \Rightarrow (((X1 \in X4) \wedge ((X2 \in X4) \wedge (X3 \in X4))) \Rightarrow (r1\_collsp \\ X0 X1 X2 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ (l1\_collsp X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\ X3 (u1\_struct\_0 X0)) \Rightarrow ((r1\_collsp X0 X1 X2 X3) \Leftrightarrow (X3 \in k1\_collsp X0 \\ X1 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ (l1\_collsp X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k1\_collsp \\ X0 X1 X2) \wedge (X2 \in k1\_collsp X0 X1 X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1.(m1\_incproj \\ X1 X0) \Leftrightarrow (m2\_collsp X1 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 \\ X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (\forall X3. \\ \forall X4. \forall X5. (g1\_incsp\_1 X0 X1 X2 = g1\_incsp\_1 X3 X4 X5) \Rightarrow \\ ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge \\ ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (v1\_incsp\_1 (k3\_incproj \\ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1\_incsp\_1 X0) \Rightarrow (m1\_subset\_1 (u3\_incsp\_1 X0) (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 (u1\_incsp\_1 X0) (u2\_incsp\_1 X0)))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (l1\_incsp\_1 X0) \Rightarrow (\neg v1\_xboole\_0 (u2\_incsp\_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0) \Rightarrow (\neg v1\_xboole\_0 (u1\_incsp\_1 X0)) \quad (12)$$

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$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (l1\_incsp\_1 (k3\_incproj X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1.(m2\_collsp X1 \\ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \wedge (\exists X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \wedge ((X2 \neq X3) \wedge (X1 = k1\_collsp X0 \\ X2 X3)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (k3\_incproj X0 = g1\_incsp\_1 (u1\_struct\_0 X0) (k1\_incproj X0) (k2\_incproj X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0) \Rightarrow ((v1\_incsp\_1 X0) \Rightarrow (X0 = g1\_incsp\_1 (u1\_incsp\_1 X0) (u2\_incsp\_1 X0) (u3\_incsp\_1 X0))) \quad (16)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_collsp X0) \wedge ((v3\_collsp X0) \wedge ((v4\_collsp X0) \wedge (l1\_collsp X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ (u1\_incsp\_1 (k3\_incproj X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_incsp\_1 \\ (k3\_incproj X0))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\ X6 (u1\_struct\_0 X0)) \Rightarrow (((X1 = X4) \wedge ((X2 = X5) \wedge (X3 = X6))) \Rightarrow ((r1\_collsp \\ X0 X4 X5 X6) \Leftrightarrow (\exists X7.(m1\_subset\_1 X7 (u2\_incsp\_1 (k3\_incproj \\ X0))) \wedge ((r1\_incsp\_1 (k3\_incproj X0) X1 X7) \wedge ((r1\_incsp\_1 (k3\_incproj \\ X0) X2 X7) \wedge (r1\_incsp\_1 (k3\_incproj X0) X3 X7))))))))))))) \end{aligned}$$