

l9\_msaterm  
(TMJVn8nECSERMGVQXXBnAy2W92gkzx8Jtq3)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_dtconstr : \iota \Rightarrow o$  be given. Let  $v2\_dtconstr : \iota \Rightarrow o$  be given. Let  $l1\_lang1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_dtconstr : \iota \Rightarrow \iota$  be given. Let  $k7\_dtconstr : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k2\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_lang1 X0)) \Rightarrow (r1\_xboole\_0 (k1\_lang1 X0) (k2\_lang1 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1\_xboole\_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_lang1 X0)) \Rightarrow (k2\_xboole\_0 (k1\_lang1 X0) (k2\_lang1 X0) = u1\_struct\_0 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_dtconstr X0) \wedge (l1\_lang1 X0))) \Rightarrow (k7\_dtconstr X0 = k2\_lang1 X0) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dtconstr X0) \wedge (l1\_lang1 X0))) \Rightarrow (k6\_dtconstr X0 = k1\_lang1 X0) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_lang1 X0) \Rightarrow (l1\_struct\_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_dtconstr X0) \wedge (l1\_lang1 X0))) \Rightarrow ((\neg v1\_xboole\_0 (k7\_dtconstr X0)) \wedge (m1\_subset\_1 (k7\_dtconstr X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dtconstr X0) \wedge (l1\_lang1 X0))) \Rightarrow ((\neg v1\_xboole\_0 (k6\_dtconstr X0)) \wedge (m1\_subset\_1 (k6\_dtconstr X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (13)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dtconstr X0) \wedge ((v2\_dtconstr X0) \wedge (l1\_lang1 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (((m2\_subset\_1 X1 (u1\_struct\_0 X0) (k6\_dtconstr X0)) \vee (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k7\_dtconstr X0))) \wedge (\neg (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k6\_dtconstr X0)) \wedge (m2\_subset\_1 X1 (u1\_struct\_0 X0) (k7\_dtconstr X0)))))$$