

## t3\_equation

(TMM4DuuxJ8JXi8So8YL54z8rgG23u2EHHEy)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v4\_funct\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge \\ & (v1\_funct\_1 X3)) \Rightarrow ((X3 \in k1\_funct\_2 X0 (k1\_funct\_2 X1 X2)) \Rightarrow ((X0 = \\ & k1\_xboole\_0) \vee ((X1 = k1\_xboole\_0) \vee (k10\_funct\_6 X3 \in k1\_funct\_2 \\ & X1 (k1\_funct\_2 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (7)$$

Assume the following.

$$\exists X0.v1\_xboole\_0 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (v1\_xboole\_0 X1)) \Rightarrow (v1\_xboole\_0 (k1\_funct\_2 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.v4\_funct\_1 (k1\_funct\_2 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0 X0) \wedge (X2 = k1\_funct\_1 X0 X3)))) \quad (11)$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota.v1\_xboole\_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k1\_funct\_2 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow (\exists X4.((v1\_relat\_1 X4) \wedge (v1\_funct\_1 X4)) \wedge ((X3 = X4) \wedge ((k9\_xtuple\_0 X4 = X0) \wedge (r1\_tarski (k10\_xtuple\_0 X4) X1)))))) \quad (13)$$

Assume the following.

$$\forall X0.(v4\_funct\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \quad (14)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2.\forall X3.\forall X4.((v1\_relat\_1 X4) \wedge (v1\_funct\_1 X4)) \Rightarrow (((X4 \in k1\_funct\_2 X0 (k1\_funct\_2 X1 X2)) \wedge (X3 \in X1)) \Rightarrow ((k9\_xtuple\_0 (k1\_funct\_1 (k10\_funct\_6 X4) X3) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k1\_funct\_1 (k10\_funct\_6 X4) X3)) X2))))))$$