

## t32\_taxonom1

(TMb4TNBugpBTgX6RRVx3yefFb4aQABgYHit)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_eqrel\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_taxonom1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_metric\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_taxonom1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_taxonom1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_taxonom1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_partit1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers)))) \Rightarrow (m1\_taxonom1 (k2\_taxonom1 X0 X1) X0)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_finset\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow (((v4\_metric\_1 X1 X0) \wedge (v1\_taxonom1 X1 X0)) \Rightarrow (k1\_tarski X0 \in k2\_taxonom1 X0 X1))) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow (m1\_subset\_1 (k2\_taxonom1 X0 X1) (k1\_zfmisc\_1 (k1\_partit1 X0))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_partit1 X0))) \Rightarrow ((m2\_taxonom1 X1 X0) \Leftrightarrow ((m1\_taxonom1 X1 X0) \wedge ((k1\_tarski X0 \in X1) \wedge (k10\_eqrel\_1 X0 \in X1)))))) \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_finset\_1 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\ & ((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) k1\_numbers) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow \\ & (((k10\_eqrel\_1 X0 \in k2\_taxonom1 X0 X1) \wedge ((v4\_metric\_1 X1 X0) \wedge (v1\_taxonom1 \\ & X1 X0))) \Rightarrow (m2\_taxonom1 (k2\_taxonom1 X0 X1) X0)) \end{aligned}$$