

t22\_trees\_3  
(TMGUXjjcoR34oa4sYAsyLaKCBPg6VSV8ou9)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v4\_trees\_3 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_trees\_1 : \iota \Rightarrow o$  be given. Let  $v1\_trees\_3 : \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v4\_trees\_3 X0) \Leftrightarrow (v1\_trees\_3 (k10\_xtuple\_0 X0))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_trees\_3 X0) \Leftrightarrow (\forall X1.(X1 \in X0) \Rightarrow ((\neg v1\_xboole\_0 X1) \wedge (v1\_trees\_1 X1))) \quad (2)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0 X0) \wedge (X2 = k1\_funct\_1 X0 X3)))) \quad (3)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v4\_trees\_3 X0) \Leftrightarrow (\forall X1.(X1 \in k9\_xtuple\_0 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_funct\_1 X0 X1)) \wedge (v1\_trees\_1 (k1\_funct\_1 X0 X1)))))$$