

## t77\_funct\_4

(TMM2XtoFrjWLEuAVSg9efTXobeBav7t3bn9)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \forall X3. ((r1\_tarski \\ (k9\_xtuple\_0 X0) X2) \wedge (r1\_tarski (k9\_xtuple\_0 X1) X3) \wedge (r1\_xboole\_0 \\ X2 X3))) \Rightarrow ((k5\_relat\_1 (k1\_funct\_4 X0 X1) X2 = X0) \wedge (k5\_relat\_1 ( \\ k1\_funct\_4 X0 X1) X3 = X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Rightarrow (r1\_xboole\_0 X1 X0) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \tag{3}$$

### Theorem 1

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((r1\_tarski (k9\_xtuple\_0 \\ X0) X2) \wedge (r1\_xboole\_0 (k9\_xtuple\_0 X1) X2)) \Rightarrow (k5\_relat\_1 (k1\_funct\_4 \\ X0 X1) X2 = X0))) \end{aligned}$$