

## t137\_funct\_7

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 \\ & X2)) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((k9\_xtuple\_0 \\ & X2 = k9\_xtuple\_0 X3) \wedge ((r1\_tarski X0 (k9\_xtuple\_0 X2)) \wedge ((r1\_xboole\_0 \\ & X1 X0) \wedge (r1\_funct\_7 X2 X3 X1)))) \Rightarrow (k5\_relat\_1 X2 X0 = k5\_relat\_1 X3 \\ & X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (v1\_partfun1 X1 X0 \Leftrightarrow (k1\_relset\_1 X0 X1 = X0)) \tag{3}$$

### Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge \\ & ((v4\_relat\_1 X3 X1) \wedge ((v1\_funct\_1 X3) \wedge (v1\_partfun1 X3 X1)))) \Rightarrow \\ & (\forall X4. ((v1\_relat\_1 X4) \wedge ((v4\_relat\_1 X4 X1) \wedge ((v1\_funct\_1 \\ & X4) \wedge (v1\_partfun1 X4 X1)))) \Rightarrow (((r1\_tarski X0 X1) \wedge ((r1\_xboole\_0 \\ & X2 X0) \wedge (r1\_funct\_7 X3 X4 X2))) \Rightarrow (k5\_relat\_1 X3 X0 = k5\_relat\_1 X4 \\ & X0))) \end{aligned}$$