

# t2\_partfun1 (TM- bQZt8SdRtHreWCEaFhV7JMhwWUUxL9AVm)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (\forall X3. ((v1\_relat\_1 \\ & X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((X0 \in k9\_xtuple\_0 X1) \wedge (X2 = k2\_xboole\_0 \\ & X3 X1)) \Rightarrow (k1\_funct\_1 X2 X0 = k1\_funct\_1 X1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (3)$$

## Theorem 1

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge \\ & (v1\_funct\_1 X2)) \Rightarrow ((k2\_xboole\_0 X0 X1 = X2) \Rightarrow (\forall X3. (X3 \in k3\_xboole\_0 \\ & (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (k1\_funct\_1 X0 X3 = k1\_funct\_1 \\ & X1 X3)))))) \end{aligned}$$