t28_funct_5 (TMUqQ3558KDgikLaP9Zum1wFhd168GsNCRW)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k4\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k2\_funct\_4 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$k2\_funct\_4\ k1\_xboole\_0 = k1\_xboole\_0 \tag{2}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_xboole\_0\ (k9\_xtuple\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (k4\_funct\_5\ X0 = k2\_funct\_4\ (k2\_funct\_5\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X1 = k2\_funct\_5\ X0) \Leftrightarrow ((\forall X2.(X2 \in k9\_xtuple\_0\ X1) \Leftrightarrow (\exists X3.\exists X4.((v1\_relat\_1\ X4) \wedge (v1\_funct\_1\ X4)) \wedge (\exists X5.(X2 = k4\_tarski\ X3\ X5) \wedge ((X3 \in k9\_xtuple\_0\ X0) \wedge ((X4 = k1\_funct\_1\ X0\ X3) \wedge (X5 \in k9\_xtuple\_0\ X4)))))) \wedge (\forall X2.\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (((X2 \in k9\_xtuple\_0\ X1) \wedge (X3 = k1\_funct\_1\ X0\ (k1\_xtuple\_0\ X2))) \Rightarrow (k1\_funct\_1\ X1\ X2 = k1\_funct\_1\ X3\ (k2\_xtuple\_0\ X2))))))) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_relat\_1\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_funct\_1\ X0) \tag{8}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((\forall X1.\neg (X1 \in k9\_xtuple\_0\ X0) \wedge ((v1\_relat\_1\ (k1\_funct\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k1\_funct\_1\ X0\ X1)))) \Rightarrow ((k2\_funct\_5\ X0 = k1\_xboole\_0) \wedge (k4\_funct\_5\ X0 = k1\_xboole\_0)))$$