t37_partfun1 (TMTeRF6ZB6vNnHeu6nVFvZFWN8ZUmBY6LqY)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $k3\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((v2\_funct\_1\ X1) \Rightarrow (v2\_funct\_1\ (k6\_relat\_1\ X0\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((v2\_funct\_1\ X1) \Rightarrow (v2\_funct\_1\ (k5\_relat\_1\ X1\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((v1\_relat\_1\ (k6\_relat\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k6\_relat\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow (v1\_relat\_1\ (k6\_relat\_1\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.\forall X2.\ k3\_partfun1\ X0\ X1\ X2 = k5\_relat\_1\ (k6\_relat\_1\ X2\ X0)\ X1) \tag{5}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((v2\_funct\_1\ X2) \Rightarrow (v2\_funct\_1\ (k3\_partfun1\ X2\ X0\ X1)))$$