t37_rfunct_1
(TMJMGUpi24kDYRSfanCsfGPUfwYD3Lwii2N)

October 27, 2020

Let $v1\_relat\_1 : \iota{\Rightarrow}o$ be given. Let $v1\_funct\_1 : \iota{\Rightarrow}o$ be given. Let $v1\_valued\_0 : \iota{\Rightarrow}o$ be given. Let $k1\_rfunct\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k18\_valued\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k5\_relat\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k9\_xtuple\_0 : \iota{\Rightarrow}\iota$ be given. Let $k4\_rfunct\_1 : \iota{\Rightarrow}\iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v1\_valued\_0$$
$$X2)))\Rightarrow(k18\_valued\_1\ X0\ (k1\_rfunct\_1\ X1\ X2) = k1\_rfunct\_1\ (k18\_valued\_1$$
$$X0\ X1)\ X2)))$$

$$(1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(k1\_rfunct\_1\ X0\ X1 = k18\_valued\_1\ X0\ (k4\_rfunct\_1\ X1)))$$

$$(2)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(k4\_rfunct\_1\ (k18\_valued\_1\ X0\ X1) = k18\_valued\_1\ (k4\_rfunct\_1$$
$$X0)\ (k4\_rfunct\_1\ X1)))$$

$$(3)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(k4\_rfunct\_1\ (k4\_rfunct\_1\ X0) = k5\_relat\_1\ X0\ (k9\_xtuple\_0\ (k4\_rfunct\_1$$
$$X0)))$$

$$(4)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$((v1\_relat\_1\ (k4\_rfunct\_1\ X0))\wedge((v1\_funct\_1\ (k4\_rfunct\_1\ X0))\wedge$$
$$(v1\_valued\_0\ (k4\_rfunct\_1\ X0))))$$

$$(5)$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1\ X0) \land ((v1\_funct\_1\ X0) \land (v1\_valued\_0\ X0))) \land ((v1\_relat\_1\ X1) \land ((v1\_funct\_1\ X1) \land (v1\_valued\_0\ X1)))) \Rightarrow ((v1\_relat\_1\ (k1\_rfunct\_1\ X0\ X1)) \land ((v1\_funct\_1\ (k1\_rfunct\_1\ X0\ X1)) \land (v1\_valued\_0\ (k1\_rfunct\_1\ X0\ X1))))) \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1\ X0) \land ((v1\_funct\_1\ X0) \land (v1\_valued\_0\ X0))) \land ((v1\_relat\_1\ X1) \land ((v1\_funct\_1\ X1) \land (v1\_valued\_0\ X1)))) \Rightarrow (k18\_valued\_1\ X0\ X1 = k18\_valued\_1\ X1\ X0) \tag{7}$$

Theorem 1

$$\forall X0. ((v1\_relat\_1\ X0) \land ((v1\_funct\_1\ X0) \land (v1\_valued\_0\ X0))) \Rightarrow (\forall X1. ((v1\_relat\_1\ X1) \land ((v1\_funct\_1\ X1) \land (v1\_valued\_0\ X1))) \Rightarrow (\forall X2. ((v1\_relat\_1\ X2) \land ((v1\_funct\_1\ X2) \land (v1\_valued\_0\ X2))) \Rightarrow (k1\_rfunct\_1\ X0\ (k1\_rfunct\_1\ X1\ X2) = k1\_rfunct\_1\ (k18\_valued\_1\ X0\ (k5\_relat\_1\ X2\ (k9\_xtuple\_0\ (k4\_rfunct\_1\ X2)))) \ X1)))$$