t39_rfunct_1
(TMPBJJwPeA3VfNtQn9tKojGrai9AxbPuo75)

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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 $k1\_valued\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k1\_rfunct\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k45\_valued\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k18\_valued\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k4\_rfunct\_1 : \iota{\Rightarrow}\iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(k1\_rfunct\_1\ X0\ X1 = k18\_valued\_1\ X0\ (k4\_rfunct\_1\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v1\_valued\_0$$
$$X2)))\Rightarrow(k18\_valued\_1\ (k45\_valued\_1\ X0\ X1)\ X2 = k45\_valued\_1\ (k18\_valued\_1$$
$$X0\ X2)\ (k18\_valued\_1\ X1\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0$$
$$X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v1\_valued\_0$$
$$X2)))\Rightarrow(k18\_valued\_1\ (k1\_valued\_1\ X0\ X1)\ X2 = k1\_valued\_1\ (k18\_valued\_1$$
$$X0\ X2)\ (k18\_valued\_1\ X1\ X2)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0$$
$$X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1))))\Rightarrow$$
$$((v1\_relat\_1\ (k45\_valued\_1\ X0\ X1))\wedge((v1\_funct\_1\ (k45\_valued\_1$$
$$X0\ X1))\wedge(v1\_valued\_0\ (k45\_valued\_1\ X0\ X1)))) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow$$
$$((v1\_relat\_1\ (k4\_rfunct\_1\ X0))\wedge((v1\_funct\_1\ (k4\_rfunct\_1\ X0))\wedge$$
$$(v1\_valued\_0\ (k4\_rfunct\_1\ X0)))) \tag{5}$$

Assume the following.

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

Theorem 1

$$\forall X0. ((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_valued\_0\ X0))) \Rightarrow \\ (\forall X1. ((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_valued\_0 \\ X1))) \Rightarrow (\forall X2. ((v1\_relat\_1\ X2) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_valued\_0 \\ X2))) \Rightarrow ((k1\_valued\_1\ (k1\_rfunct\_1\ X0\ X1)\ (k1\_rfunct\_1\ X2\ X1) = k1\_rfunct\_1 \\ (k1\_valued\_1\ X0\ X2)\ X1) \wedge (k45\_valued\_1\ (k1\_rfunct\_1\ X0\ X1)\ (k1\_rfunct\_1 \\ X2\ X1) = k1\_rfunct\_1\ (k45\_valued\_1\ X0\ X2)\ X1))))$$