t8_groeb_2 (TMVDnjrwQgZpvomw5QQwtoyjjpnyagQouCa)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_valued\_0 : \iota \Rightarrow o$ be given. Let $v2\_pre\_poly : \iota \Rightarrow o$ be given. Let $r3\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_groeb\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((v4\_valued\_0\ X1) \wedge (v2\_pre\_poly\ X1)))))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))))) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1\ X3\ X0) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_partfun1\ X3\ X0) \wedge ((v4\_valued\_0\ X3) \wedge (v2\_pre\_poly\ X3)))))) \Rightarrow (((r3\_pre\_poly\ X0\ X1\ X3) \wedge (r3\_pre\_poly\ X0\ X2\ X3)) \Rightarrow (r3\_pre\_poly\ X0\ (k2\_groeb\_2\ X0\ X1\ X2)\ X3))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((v4\_valued\_0\ X1) \wedge (v2\_pre\_poly\ X1)))))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))))) \Rightarrow ((r3\_pre\_poly\ X0\ X1\ (k2\_groeb\_2\ X0\ X1\ X2)) \wedge (r3\_pre\_poly\ X0\ X2\ (k2\_groeb\_2\ X0\ X1\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((v4\_valued\_0\ X1) \wedge (v2\_pre\_poly\ X1)))))) \wedge ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2))))))) \Rightarrow ((v1\_relat\_1\ (k2\_groeb\_2\ X0\ X1\ X2)) \wedge ((v4\_relat\_1\ (k2\_groeb\_2\ X0\ X1\ X2)\ X0) \wedge ((v1\_funct\_1\ (k2\_groeb\_2\ X0\ X1\ X2)) \wedge ((v1\_partfun1\ (k2\_groeb\_2\ X0\ X1\ X2)\ X0) \wedge ((v4\_valued\_0\ (k2\_groeb\_2\ X0\ X1\ X2)) \wedge (v2\_pre\_poly\ (k2\_groeb\_2\ X0\ X1\ X2))))))) \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v4\_valued\_0\ X1)\wedge(v2\_pre\_poly\ X1))))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge((v1\_partfun1\ X2\ X0)\wedge((v4\_valued\_0\ X2)\wedge(v2\_pre\_poly\ X2))))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ X0)\wedge((v1\_funct\_1\ X3)\wedge((v1\_partfun1\ X3\ X0)\wedge((v4\_valued\_0\ X3)\wedge(v2\_pre\_poly\ X3))))))\Rightarrow((r3\_pre\_poly\ X0\ X1\ (k2\_groeb\_2\ X0\ X2\ X3))\Rightarrow(r3\_pre\_poly\ X0\ (k2\_groeb\_2\ X0\ X2\ X1)\ (k2\_groeb\_2\ X0\ X2\ X3)))))$$