

## t32\_fvaluat1

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_realset2 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_fvaluat1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_fvaluat1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_fvaluat1 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
 & X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ( \\
 & (v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v1\_realset2 X0) \wedge (l6\_algstr\_0 \\
 & X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
 & (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_fvaluat1 \\
 & X3 X0) \Rightarrow ((v3\_fvaluat1 X0) \Rightarrow ((X1 = k4\_struct\_0 X0) \vee (k3\_funct\_2 ( \\
 & u1\_struct\_0 X0) k7\_numbers X3 (k1\_vectsp\_2 X0 X2 X1) = k4\_supinf\_2 \\
 & (k3\_funct\_2 (u1\_struct\_0 X0) k7\_numbers X3 X2) (k3\_funct\_2 (u1\_struct\_0 \\
 & X0) k7\_numbers X3 X1)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k7\_numbers) \wedge (m1\_subset\_1 X1 k7\_numbers)) \Rightarrow (k4\_supinf\_2 X0 X1 = k3\_xxreal\_3 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_fvaluat1 X0)\Rightarrow(\forall X1.(v1\_fvaluat1 X1)\Rightarrow((r1\_xxreal\_0 X0 X1)\Rightarrow(r1\_xxreal\_0 k6\_numbers (k3\_xxreal\_3 X1 X0)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_fvaluat1 X0)))\Rightarrow(v1\_fvaluat1 (k1\_funct\_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l6\_algstr\_0 X0)\Rightarrow(\forall X1.(m1\_fvaluat1 X1 X0)\Rightarrow \\ & ((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 (u1\_struct\_0 X0) k7\_numbers)\wedge \\ & ((v2\_fvaluat1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X0) k7\_numbers))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l1\_algstr\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_algstr\_0 X0)\Rightarrow(l1\_struct\_0 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(m1\_subset\_1 ( \\ & k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge \\ & (v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v1\_realset2 X0) \wedge (l6\_algstr\_0 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_fvaluat1 \\ & X3 X0) \Rightarrow (((v3\_fvaluat1 X0) \wedge (r1\_xxreal\_0 (k3\_funct\_2 (u1\_struct\_0 \\ & X0) k7\_numbers X3 X1) (k3\_funct\_2 (u1\_struct\_0 X0) k7\_numbers X3 \\ & X2))) \Rightarrow ((X1 = k4\_struct\_0 X0) \vee (r1\_xxreal\_0 k6\_numbers (k3\_funct\_2 \\ & (u1\_struct\_0 X0) k7\_numbers X3 (k1\_vectsp\_2 X0 X2 X1)))))))))) \end{aligned}$$