

# t49\_fvaluat1

## (TML3xuNDDuxUqfALMdC89TA9SX98Y4ohX1z)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_fvaluat1 : \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k6\_numbers : \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $v2\_fvaluat1 : \iota \Rightarrow o$  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. Let  $k4\_numbers : \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (r1\_xxreal\_0 X0 k1\_xxreal\_0) \quad (2)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6\_algstr\_0 X0) \Rightarrow (\forall X1.(m1\_fvaluat1 X1 X0) \Rightarrow \\ ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) k7\_numbers) \wedge \\ ((v2\_fvaluat1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ (u1\_struct\_0 X0) k7\_numbers)))))))) \quad (8) \end{aligned}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1\_algstr\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6\_algstr\_0 X0) \Rightarrow ((v3\_fvaluat1 X0) \Rightarrow (\forall X1.( \\ (v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) k7\_numbers) \wedge \\ ((v2\_fvaluat1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ (u1\_struct\_0 X0) k7\_numbers)))))) \Rightarrow ((m1\_fvaluat1 X1 X0) \Leftrightarrow ((k1\_funct\_1 \\ X1 (k4\_struct\_0 X0) = k1\_xxreal\_0) \wedge ((\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow ((X2 \neq k4\_struct\_0 X0) \Rightarrow (k1\_funct\_1 X1 X2 \in \\ k4\_numbers))) \wedge ((\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k1\_funct\_1 X1 \\ (k6\_algstr\_0 X0 X2 X3) = k1\_xxreal\_3 (k1\_funct\_1 X1 X2) (k1\_funct\_1 \\ X1 X3)))) \wedge ((\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_xxreal\_0 \\ k6\_numbers (k1\_funct\_1 X1 X2)) \Rightarrow (r1\_xxreal\_0 k6\_numbers (k1\_funct\_1 \\ X1 (k1\_algstr\_0 X0 (k5\_struct\_0 X0) X2)))) \wedge (\exists X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0) \wedge ((k1\_funct\_1 X1 X2 \neq k6\_numbers) \wedge (k1\_funct\_1 \\ X1 X2 \neq k1\_xxreal\_0)))))))))) \quad (13) \end{aligned}$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota.v1\_xboole\_0 X0) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_fvaluat1 X1 X0) \Rightarrow (k6\_fvaluat1 X0 X1 = ReplSep (toset (\lambda X2 : \\ & \quad \iota.m1\_subset\_1 X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.r1\_xxreal\_0 \\ & \quad k6\_numbers (k3\_funct\_2 (u1\_struct\_0 X0) k7\_numbers X1 X2)) (\lambda X2 : \\ & \quad \quad \iota.X2)))) \end{aligned} \quad (15)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_fvaluat1 X1 X0) \Rightarrow ((v3\_fvaluat1 X0) \Rightarrow (k4\_struct\_0 X0 \in k6\_fvaluat1 \\ & \quad X0 X1))) \end{aligned}$$