

# t14\_real\_lat (TMFsS- dGea5cjB1ZTQx4eEYRxp4XTpUR1zAH)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_real\_lat : \iota \Rightarrow \iota$  be given. Let  $k5\_real\_lat : \iota \Rightarrow \iota$  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  $m1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_funct\_2 X1 X0 k1\_numbers \\ (k9\_funct\_2 X0 k1\_numbers)) \Rightarrow (\forall X2.(m2\_funct\_2 X2 X0 k1\_numbers \\ (k9\_funct\_2 X0 k1\_numbers)) \Rightarrow (r2\_funct\_2 X0 k1\_numbers (k1\_funcsdom \\ X0 k1\_numbers (k5\_real\_lat X0) X1 X2) (k1\_funcsdom X0 k1\_numbers \\ (k5\_real\_lat X0) X2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_funct\_2 X1 X0 k1\_numbers \\ (k9\_funct\_2 X0 k1\_numbers)) \Rightarrow (\forall X2.(m2\_funct\_2 X2 X0 k1\_numbers \\ (k9\_funct\_2 X0 k1\_numbers)) \Rightarrow (r2\_funct\_2 X0 k1\_numbers (k1\_funcsdom \\ X0 k1\_numbers (k4\_real\_lat X0) (k1\_funcsdom X0 k1\_numbers (k5\_real\_lat \\ X0) X1 X2) X1) X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2) \wedge \\ ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X1)))))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X1) \wedge (m1\_funct\_2 \\ X2 X0 X1)) \Rightarrow (\forall X3.(m2\_funct\_2 X3 X0 X1 X2) \Leftrightarrow (m1\_subset\_1 X3 \\ X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X1) \wedge (m1\_funct\_2 \\ & X2 \ X0 \ X1)) \Rightarrow (\forall X3. (m2\_funct\_2 \ X3 \ X0 \ X1 \ X2) \Rightarrow ((v1\_funct\_1 \ X3) \wedge \\ & ((v1\_funct\_2 \ X3 \ X0 \ X1) \wedge (m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X0 \ X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (\neg v1\_xboole\_0 \ X1) \Rightarrow (m1\_funct\_2 \ (k9\_funct\_2 \ X0 \ X1) \ X0 \ X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 \ X0) \Rightarrow ((v1\_funct\_1 \ (k5\_real\_lat \ X0)) \wedge \\ & ((v1\_funct\_2 \ (k5\_real\_lat \ X0) \ (k2\_zfmisc\_1 \ (k9\_funct\_2 \ X0 \ k1\_numbers) \\ & (k9\_funct\_2 \ X0 \ k1\_numbers)) \ (k9\_funct\_2 \ X0 \ k1\_numbers)) \wedge (m1\_subset\_1 \\ & (k5\_real\_lat \ X0) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k9\_funct\_2 \\ & X0 \ k1\_numbers) \ (k9\_funct\_2 \ X0 \ k1\_numbers)) \ (k9\_funct\_2 \ X0 \ k1\_numbers)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1\_xboole\_0 \\ & X1) \wedge (((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ (k2\_zfmisc\_1 \ (k9\_funct\_2 \\ & X0 \ X1) \ (k9\_funct\_2 \ X0 \ X1)) \ (k9\_funct\_2 \ X0 \ X1)) \wedge (m1\_subset\_1 \ X2 \ ( \\ & k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (k9\_funct\_2 \ X0 \ X1) \ (k9\_funct\_2 \\ & X0 \ X1)) \ (k9\_funct\_2 \ X0 \ X1)))))) \wedge ((m1\_subset\_1 \ X3 \ (k9\_funct\_2 \ X0 \\ & X1)) \wedge (m1\_subset\_1 \ X4 \ (k9\_funct\_2 \ X0 \ X1)))))) \Rightarrow (m2\_funct\_2 \ (k1\_funcsdom \\ & X0 \ X1 \ X2 \ X3 \ X4) \ X0 \ X1 \ (k9\_funct\_2 \ X0 \ X1)) \end{aligned} \quad (9)$$

### Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1. (m2\_funct\_2 \ X1 \ X0 \ k1\_numbers \\ & (k9\_funct\_2 \ X0 \ k1\_numbers)) \Rightarrow (\forall X2. (m2\_funct\_2 \ X2 \ X0 \ k1\_numbers \\ & (k9\_funct\_2 \ X0 \ k1\_numbers)) \Rightarrow (r2\_funct\_2 \ X0 \ k1\_numbers \ (k1\_funcsdom \\ & X0 \ k1\_numbers \ (k4\_real\_lat \ X0) \ (k1\_funcsdom \ X0 \ k1\_numbers \ (k5\_real\_lat \\ & X0) \ X1 \ X2) \ X2) \ X2))) \end{aligned}$$