

## l3\_xreal\_1

(TMaYc9vD8vSQFs3KgnLBPTtUZFAH5NQufsr)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_arytm\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k5\_arytm\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$m1\_subset\_1 \ k1\_xboole\_0 \ k4\_ordinal1 \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 \ X0) \Rightarrow (k2\_xcmplx\_0 \ X0 \ k6\_numbers = X0) \tag{2}$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ &X1 \ k1\_numbers) \Rightarrow ((X1 = k6\_numbers) \Rightarrow (k1\_arytm\_0 \ X0 \ X1 = X0))) \end{aligned} \tag{3}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\begin{aligned} &\forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (\forall X1.(m1\_subset\_1 \ X1 \ k1\_numbers) \Rightarrow \\ &(\forall X2.(m1\_subset\_1 \ X2 \ k1\_numbers) \Rightarrow ((X0 = k5\_arytm\_0 \ X1 \ X2) \Rightarrow \\ &((X2 = k6\_numbers) \wedge (X0 = X1)))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (m1\_subset\_1 \\ &X1 \ k1\_numbers)) \Rightarrow (m1\_subset\_1 \ (k1\_arytm\_0 \ X0 \ X1) \ k1\_numbers) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ &X1 \ k1\_numbers) \Rightarrow (((X1 = k6\_numbers) \Rightarrow (k5\_arytm\_0 \ X0 \ X1 = X0)) \wedge (( \\ &X1 \neq k6\_numbers) \Rightarrow (k5\_arytm\_0 \ X0 \ X1 = k5\_funct\_4 \ k1\_numbers \ k6\_numbers \\ &np\_1 \ X0 \ X1)))) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & (X2 = k2\_xcmplx\_0 X0 X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 k1\_numbers) \wedge \\ & (\exists X4.(m1\_subset\_1 X4 k1\_numbers) \wedge (\exists X5.(m1\_subset\_1 \\ & X5 k1\_numbers) \wedge (\exists X6.(m1\_subset\_1 X6 k1\_numbers) \wedge ((X0 = \\ & k5\_arytm\_0 X3 X4) \wedge ((X1 = k5\_arytm\_0 X5 X6) \wedge (X2 = k5\_arytm\_0 (k1\_arytm\_0 \\ & X3 X5) (k1\_arytm\_0 X4 X6)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (m1\_subset\_1 X1 k1\_numbers)) \Rightarrow (k1\_arytm\_0 X0 X1 = k1\_arytm\_0 X1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (13)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 \\ & X3) \Rightarrow (((X0 = X2) \wedge (X1 = X3)) \Rightarrow (k1\_arytm\_0 X0 X1 = k2\_xcmplx\_0 X2 X3)))))) \end{aligned}$$