

t46\_interva1 (TM-  
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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_interval : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_interval : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_interval : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_interval : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_interval X1 X0)) \Rightarrow (k10\_interval X0 X1 = k2\_interval X0 (k3\_subset\_1 \\ & X0 (k6\_interval X0 X1)) (k3\_subset\_1 X0 (k5\_interval X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_interval X1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow ((X2 = k6\_interval X0 X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & X0)) \wedge (X1 = k2\_interval X0 X3 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_interval X1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow ((X2 = k5\_interval X0 X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & X0)) \wedge (X1 = k2\_interval X0 X2 X3)))))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_interval X1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 X0)) \Rightarrow (((X1 = k2\_interval \\ & X0 X2 X3) \wedge (r1\_tarski X2 X3)) \Rightarrow (k10\_interval X0 X1 = k2\_interval X0 \\ & (k3\_subset\_1 X0 X3) (k3\_subset\_1 X0 X2)))))) \end{aligned}$$