

t1\_interva1  
(TMLMTS7qxkTNTQn3gBTRwQfcgDYZezrT299)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_interval : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k1\_interval X0 X1 X2 = \text{ReplSep} \\ & (\text{toSet } (\lambda X3 : \iota. m1\_subset\_1 X3 (k1\_zfmisc\_1 X0)))) (\lambda X3 : \\ & \iota. (r1\_tarski X1 X3) \wedge (r1\_tarski X3 X2)) (\lambda X3 : \iota. X3))) \quad (3) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X3. (X3 \in k1\_interval \\ & X0 X1 X2) \Leftrightarrow ((r1\_tarski X1 X3) \wedge (r1\_tarski X3 X2)))) \end{aligned}$$