

# t22\_ndiff\_4 (TMNpj- dAz5juKMGQVYXA79sBubf535nJfYP8)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v3\_rcomp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_ndiff\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_ndiff\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X1) \wedge (m2\_subset\_1 X1 k1\_numbers \\ & \quad k5\_numbers)) \Rightarrow (\forall X2. ((v3\_rcomp\_1 X2) \wedge (m1\_subset\_1 X2 ( \\ & \quad k1\_zfmisc\_1 k1\_numbers))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge (m1\_subset\_1 \\ & \quad X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers (k1\_euclid X1)))))) \Rightarrow ( \\ & \quad ((r2\_ndiff\_4 X1 X3 X0) \wedge (r1\_tarski X2 X0)) \Rightarrow (r2\_ndiff\_4 X1 X3 X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X1. ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & \quad k1\_numbers (k1\_euclid X0)))))) \Rightarrow ((v1\_ndiff\_4 X1 X0) \Leftrightarrow (r2\_ndiff\_4 \\ & \quad X0 X1 (k1\_relset\_1 k1\_numbers X1))) \end{aligned} \tag{2}$$

## Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X1. ((v3\_rcomp\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ & \quad (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_ndiff\_4 X2 X0) \wedge (m1\_subset\_1 \\ & \quad X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers (k1\_euclid X0)))))) \Rightarrow \\ & \quad ((r1\_tarski X1 (k1\_relset\_1 k1\_numbers X2)) \Rightarrow (r2\_ndiff\_4 X0 X2 \\ & \quad X1)))) \end{aligned}$$