

# t19\_normform (TM- bQM7YogZhAqd6it8J49NG5T4WASqqJ2Vc)

October 27, 2020

Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_normform : \iota \Rightarrow \iota$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_setwiseo : \iota \Rightarrow \iota$  be given. Let  $r3\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_finsub\_1 : \iota \Rightarrow o$  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. Assume the following.

$$\forall X0. r3\_binop\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)) (k1\_domain\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0) (k1\_setwiseo X0) (k1\_setwiseo X0)) (k5\_normform X0) \quad (1)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 (k5\_finsub\_1 X0)) \wedge (v4\_finsub\_1 (k5\_finsub\_1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_funct\_1 (k5\_normform X0)) \wedge ((v1\_funct\_2 (k5\_normform X0) (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)) (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0))) (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0))) \wedge (m1\_subset\_1 (k5\_normform X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)) (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0))) (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)))))) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 (k1\_setwiseo X0)) \wedge (m1\_subset\_1 (k1\_setwiseo X0) (k5\_finsub\_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow (m1\_subset\_1 (k1\_domain\_1 X0 X1 X2 X3) (k2\_zfmisc\_1 X0 X1)) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\
& X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X0) X0)))))) \Rightarrow ((\exists X2. (m1\_subset\_1 X2 X0) \wedge (r3\_binop\_1 X0 \\
& X2 X1)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow ((X2 = k4\_binop\_1 X0 X1) \Leftrightarrow \\
& (r3\_binop\_1 X0 X2 X1))))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. k4\_binop\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 \\
& X0)) (k5\_normform X0) = k1\_domain\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 \\
& X0) (k1\_setwiseo X0) (k1\_setwiseo X0)
\end{aligned}$$