

t20\_fdifff\_1 (TML-  
CMrD8pQvwdCUXVFFzWgVFnnqu7hzNrJ1o)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_rcomp\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v3\_rcomp\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))) \Rightarrow ((r2\_fdiff\_1 X1 X0) \Leftrightarrow ((r1\_tarski X0 \\ (k1\_relset\_1 k1\_numbers X1)) \wedge (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\ ((X2 \in X0) \Rightarrow (r1\_fdiff\_1 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k1\_numbers) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 \\ (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow ((r1\_fdiff\_1 \\ X2 X0) \Rightarrow ((r1\_fdiff\_1 (k26\_valued\_1 k1\_numbers k1\_numbers X2 X1) \\ X0) \wedge (k1\_fdiff\_1 (k26\_valued\_1 k1\_numbers k1\_numbers X2 X1) X0 = \\ k8\_real\_1 X1 (k1\_fdiff\_1 X2 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow ((v1\_funct\_1 (k2\_fdiff\_1 \\ & X0 X1)) \wedge (m1\_subset\_1 (k2\_fdiff\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v3\_membered X1) \wedge \\ & (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge (v1\_xreal\_0 X3))) \Rightarrow ((v1\_funct\_1 (k26\_valued\_1 X0 X1 \\ & X2 X3)) \wedge (m1\_subset\_1 (k26\_valued\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 k1\_numbers)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1. (r2\_fdiff\_1 X0 X1) \Rightarrow (\forall X2. \\ & ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\ & k1\_numbers)))) \Rightarrow ((X2 = k2\_fdiff\_1 X0 X1) \Leftrightarrow ((k1\_relset\_1 k1\_numbers \\ & X2 = X1) \wedge (\forall X3. (m1\_subset\_1 X3 k1\_numbers) \Rightarrow ((X3 \in X1) \Rightarrow (k1\_seq\_1 \\ & X2 X3 = k1\_fdiff\_1 X0 X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (8)$$

### Theorem 1

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1. ((v3\_rcomp\_1 \\ & X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow (\forall X2. \\ & ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\ & k1\_numbers)))) \Rightarrow (((r1\_tarski X1 (k1\_relset\_1 k1\_numbers (k26\_valued\_1 \\ & k1\_numbers k1\_numbers X2 X0))) \wedge (r2\_fdiff\_1 X2 X1)) \Rightarrow ((r2\_fdiff\_1 \\ & (k26\_valued\_1 k1\_numbers k1\_numbers X2 X0) X1) \wedge (\forall X3. (m1\_subset\_1 \\ & X3 k1\_numbers) \Rightarrow ((X3 \in X1) \Rightarrow (k1\_seq\_1 (k2\_fdiff\_1 (k26\_valued\_1 \\ & k1\_numbers k1\_numbers X2 X0) X1) X3 = k8\_real\_1 X0 (k1\_fdiff\_1 X2 \\ & X3)))))) \end{aligned}$$