

t71\_bvfunc14  
(TMR9A4SPTwGLPcfffgHRfpeGStpgQ8kDXfk)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_bvfunc\_2 : \iota \Rightarrow \iota$  be given. Let  $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partit1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. \forall X7. \forall X8. k7\_enumset1 X0 X1 X2 X3 X4 X5 X6 \\ & X7 X8 = k2\_xboole\_0 (k1\_enumset1 X0 X1 X2) (k4\_enumset1 X3 X4 X5 X6 \\ & X7 X8) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_bvfunc\_2 X0))) \Rightarrow (\forall X2. (m1\_eqrel\_1 X2 X0) \Rightarrow (\forall X3. \\ & (m1\_eqrel\_1 X3 X0) \Rightarrow (\forall X4. (m1\_eqrel\_1 X4 X0) \Rightarrow (\forall X5. \\ & (m1\_eqrel\_1 X5 X0) \Rightarrow (\forall X6. (m1\_eqrel\_1 X6 X0) \Rightarrow (\forall X7. \\ & (m1\_eqrel\_1 X7 X0) \Rightarrow (\forall X8. (m1\_eqrel\_1 X8 X0) \Rightarrow (\forall X9. \\ & (m1\_eqrel\_1 X9 X0) \Rightarrow (\forall X10. (m1\_eqrel\_1 X10 X0) \Rightarrow ((X1 = k7\_enumset1 \\ & X2 X3 X4 X5 X6 X7 X8 X9 X10) \Rightarrow ((X2 = X3) \vee ((X2 = X4) \vee ((X2 = X5) \vee ((X2 = X6) \vee \\ & ((X2 = X7) \vee ((X2 = X8) \vee ((X2 = X9) \vee ((X2 = X10) \vee ((X3 = X4) \vee ((X3 = X5) \vee \\ & ((X3 = X6) \vee ((X3 = X7) \vee ((X3 = X8) \vee ((X3 = X9) \vee ((X3 = X10) \vee ((X4 = X5) \vee \\ & ((X4 = X6) \vee ((X4 = X7) \vee ((X4 = X8) \vee ((X4 = X9) \vee ((X4 = X10) \vee ((X5 = X6) \vee \\ & ((X5 = X7) \vee ((X5 = X8) \vee ((X5 = X9) \vee ((X5 = X10) \vee ((X6 = X7) \vee ((X6 = X8) \vee \\ & ((X6 = X9) \vee ((X6 = X10) \vee ((X7 = X8) \vee ((X7 = X9) \vee ((X7 = X10) \vee ((X8 = X9) \vee \\ & ((X8 = X10) \vee ((X9 = X10) \vee (k5\_bvfunc\_2 X0 X5 X1 = k2\_partit1 X0 (k2\_partit1 \\ & X0 (k2\_partit1 X0 (k2\_partit1 X0 (k2\_partit1 X0 (k2\_partit1 X0 ( \\ & k2\_partit1 X0 X2 X3) X4) X6) X7) X8) X9) X10))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & k4\_enumset1\ X0\ X1\ X2\ X3\ X4\ X5 = k2\_xboole\_0\ (k2\_tarski\ X0\ X1)\ (k2\_enumset1 \\ & \quad X2\ X3\ X4\ X5) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ & \quad (k1\_bfunc\_2\ X0))) \Rightarrow (\forall X2.(m1\_eqrel\_1\ X2\ X0) \Rightarrow (\forall X3. \\ & \quad (m1\_eqrel\_1\ X3\ X0) \Rightarrow (\forall X4.(m1\_eqrel\_1\ X4\ X0) \Rightarrow (\forall X5. \\ & \quad (m1\_eqrel\_1\ X5\ X0) \Rightarrow (\forall X6.(m1\_eqrel\_1\ X6\ X0) \Rightarrow (\forall X7. \\ & \quad (m1\_eqrel\_1\ X7\ X0) \Rightarrow (\forall X8.(m1\_eqrel\_1\ X8\ X0) \Rightarrow (\forall X9. \\ & \quad (m1\_eqrel\_1\ X9\ X0) \Rightarrow (\forall X10.(m1\_eqrel\_1\ X10\ X0) \Rightarrow ((X1 = k7\_enumset1 \\ & \quad X2\ X3\ X4\ X5\ X6\ X7\ X8\ X9\ X10) \Rightarrow ((X2 = X3) \vee ((X2 = X4) \vee ((X2 = X5) \vee ((X2 = X6) \vee \\ & \quad ((X2 = X7) \vee ((X2 = X8) \vee ((X2 = X9) \vee ((X2 = X10) \vee ((X3 = X4) \vee ((X3 = X5) \vee \\ & \quad ((X3 = X6) \vee ((X3 = X7) \vee ((X3 = X8) \vee ((X3 = X9) \vee ((X3 = X10) \vee ((X4 = X5) \vee \\ & \quad ((X4 = X6) \vee ((X4 = X7) \vee ((X4 = X8) \vee ((X4 = X9) \vee ((X4 = X10) \vee ((X5 = X6) \vee \\ & \quad ((X5 = X7) \vee ((X5 = X8) \vee ((X5 = X9) \vee ((X5 = X10) \vee ((X6 = X7) \vee ((X6 = X8) \vee \\ & \quad ((X6 = X9) \vee ((X6 = X10) \vee ((X7 = X8) \vee ((X7 = X9) \vee ((X7 = X10) \vee ((X8 = X9) \vee \\ & \quad ((X8 = X10) \vee ((X9 = X10) \vee (k5\_bfunc\_2\ X0\ X6\ X1 = k2\_partit1\ X0\ (k2\_partit1 \\ & \quad X0\ (k2\_partit1\ X0\ (k2\_partit1\ X0\ (k2\_partit1\ X0\ (k2\_partit1\ X0\ ( \\ & \quad k2\_partit1\ X0\ X2\ X3)\ X4)\ X5)\ X7)\ X8)\ X9)\ X10))) \end{aligned}$$