

## l9\_petri\_2

(TMZ4jcfVwSxRQzX5mcBATfy1abwSRQrc8nS)

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Let  $v1\_zfmisc.1 : \iota \Rightarrow o$  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  $v1\_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1\_zfmisc.1 X0) \Rightarrow (\forall X1. \forall X2.(m1\_subset.1 \\
 & \quad X2 (k1\_zfmisc.1 X1)) \Rightarrow (\forall X3.(m1\_subset.1 X3 (k1\_zfmisc.1 \\
 & \quad X1)) \Rightarrow (\forall X4.((v1\_funct.1 X4) \wedge ((v1\_funct.2 X4 X2 X0) \wedge (m1\_subset.1 \\
 & \quad X4 (k1\_zfmisc.1 (k2\_zfmisc.1 X2 X0)))))) \Rightarrow (\forall X5.((v1\_funct.1 \\
 & \quad X5) \wedge ((v1\_funct.2 X5 X3 X0) \wedge (m1\_subset.1 X5 (k1\_zfmisc.1 (k2\_zfmisc.1 \\
 & \quad X3 X0)))))) \Rightarrow (\neg (X2 \neq X3) \wedge ((r1\_tarski X3 X2) \wedge (\forall X6.((v1\_funct.1 \\
 & \quad X6) \wedge ((v1\_funct.2 X6 X1 X0) \wedge (m1\_subset.1 X6 (k1\_zfmisc.1 (k2\_zfmisc.1 \\
 & \quad X1 X0)))))) \Rightarrow (\neg (k2\_partfun1 X1 X0 X6 X3 = X5) \wedge (k2\_partfun1 X1 X0 X6 \\
 & \quad X2 \neq X4))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1\_zfmisc.1 X0) \Rightarrow (\forall X1. \forall X2.(m1\_subset.1 \\
 & \quad X2 (k1\_zfmisc.1 X1)) \Rightarrow (\forall X3.(m1\_subset.1 X3 (k1\_zfmisc.1 \\
 & \quad X1)) \Rightarrow (\forall X4.((v1\_funct.1 X4) \wedge ((v1\_funct.2 X4 X2 X0) \wedge (m1\_subset.1 \\
 & \quad X4 (k1\_zfmisc.1 (k2\_zfmisc.1 X2 X0)))))) \Rightarrow (\forall X5.((v1\_funct.1 \\
 & \quad X5) \wedge ((v1\_funct.2 X5 X3 X0) \wedge (m1\_subset.1 X5 (k1\_zfmisc.1 (k2\_zfmisc.1 \\
 & \quad X3 X0)))))) \Rightarrow (\neg (\neg r1\_tarski X3 X2) \wedge (\forall X6.((v1\_funct.1 X6) \wedge \\
 & \quad ((v1\_funct.2 X6 X1 X0) \wedge (m1\_subset.1 X6 (k1\_zfmisc.1 (k2\_zfmisc.1 \\
 & \quad X1 X0)))))) \Rightarrow (\neg (k2\_partfun1 X1 X0 X6 X2 = X4) \wedge (k2\_partfun1 X1 X0 X6 \\
 & \quad X3 \neq X5))))))))))
 \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_zfmisc\_1 X0) \Rightarrow (\forall X1.\forall X2.(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & X1)) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 X2 X0) \wedge (m1\_subset\_1 \\ & X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X2 X0)))))) \Rightarrow (\forall X5.((v1\_funct\_1 \\ & X5) \wedge ((v1\_funct\_2 X5 X3 X0) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X3 X0)))))) \Rightarrow (\neg(X2 \neq X3) \wedge (ReplSep (toset (\lambda X6 : \iota.(v1\_funct\_1 \\ & X6) \wedge ((v1\_funct\_2 X6 X1 X0) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 X0)))))) (\lambda X6 : \iota.k2\_partfun1 X1 X0 X6 X2 = X4) (\lambda X6 : \iota. \\ & X6) = ReplSep (toset (\lambda X6 : \iota.(v1\_funct\_1 X6) \wedge ((v1\_funct\_2 \\ & X6 X1 X0) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \\ & (\lambda X6 : \iota.k2\_partfun1 X1 X0 X6 X3 = X5) (\lambda X6 : \iota.X6)))))) \end{aligned}$$