

## t46\_graph\_5

(TMdiYA2Axxh1SDkKZt7AFZURD8jymERt2Xh)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $r5\_graph\_5 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r6\_graph\_5 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k8\_graph\_5 : \iota$  be given. Let  $k2\_arytm\_2 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\ & ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow (((X1 = k1\_xboole\_0) \wedge (X0 \neq k1\_xboole\_0)) \vee \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X2))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{2}$$

Assume the following.

$$k8\_graph\_5 = k2\_arytm\_2 \tag{3}$$

Assume the following.

$$\neg v1\_xboole\_0 k2\_arytm\_2 \tag{4}$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \tag{5}$$

Assume the following.

$$m1\_subset\_1 k8\_graph\_5 (k1\_zfmisc\_1 k1\_numbers) \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\ & ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r6\_graph\_5 X0 X1) \Leftrightarrow ((v1\_funct\_1 \\ & X1) \wedge ((v1\_funct\_2 X1 (u4\_struct\_0 X0) k1\_numbers) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u4\_struct\_0 X0) k1\_numbers))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. \\ & ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r5\_graph\_5 X0 X1) \Leftrightarrow ((v1\_funct\_1 \\ & X1) \wedge ((v1\_funct\_2 X1 (u4\_struct\_0 X0) k8\_graph\_5) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u4\_struct\_0 X0) k8\_graph\_5))))))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ & \neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow ((r5\_graph\_5 X1 X0) \Rightarrow (r6\_graph\_5 \\ & X1 X0))) \end{aligned}$$