

## t27\_ami\_3

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Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_ami\_3 : \iota$  be given. Let  $k2\_ami\_2 : \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_ami\_2 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_scm\_inst : \iota$  be given. Let  $v1\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v2\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v3\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v5\_compos\_0 : \iota \Rightarrow o$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k3\_scm\_inst : \iota$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $k9\_ami\_2 : \iota$  be given. Let  $k3\_ami\_2 : \iota$  be given. Let  $k4\_ami\_2 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Leftrightarrow (k4\_xboole\_0 X0 X1 = X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg X0 \in X1) \Rightarrow (r1\_xboole\_0 (k1\_tarski X0) X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k4\_xboole\_0 (k2\_xboole\_0 X0 X1) X1 = k4\_xboole\_0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0.k4\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (4)$$

Assume the following.

$$k5\_numbers \in k1\_ami\_2 \quad (5)$$

Assume the following.

$$\neg k5\_numbers \in k2\_ami\_2 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_xboole\_0 X0 X1) \Rightarrow (r1\_xboole\_0 X1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k7\_subset\_1 X0 X1 X2 = k4\_xboole\_0 X1 X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (10)$$

Assume the following.

$$k2\_ami\_2 = k2\_scm\_inst \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.((m1\_subset\_1 X2 X1) \wedge (((v1\_compos\_0 X3) \wedge ((v2\_compos\_0 X3) \wedge ((v3\_compos\_0 X3) \wedge (v5\_compos\_0 X3)))) \wedge (((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 X1 X0) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \wedge (((v1\_relat\_1 X5) \wedge ((v4\_relat\_1 X5 X0) \wedge ((v1\_funct\_1 X5) \wedge (v1\_partfun1 X5 X0)))) \wedge ((v1\_funct\_1 X6) \wedge ((v1\_funct\_2 X6 X3 (k1\_funct\_2 (k4\_card\_3 (k3\_relat\_1 X4 X5)) (k4\_card\_3 (k3\_relat\_1 X4 X5)))) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X3 (k1\_funct\_2 (k4\_card\_3 (k3\_relat\_1 X4 X5)) (k4\_card\_3 (k3\_relat\_1 X4 X5)))))))))) \Rightarrow \\ & (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\ & \forall X13.(g1\_extpro\_1 X0 X1 X2 X3 X4 X5 X6 = g1\_extpro\_1 X7 X8 X9 X10 X11 X12 X13) \Rightarrow ((X0 = X7) \wedge ((X1 = X8) \wedge ((X2 = X9) \wedge ((X3 = X10) \wedge ((X4 = X11) \wedge ((X5 = X12) \wedge (X6 = X13)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$(\neg v1\_xboole\_0 k3\_scm\_inst) \wedge (v5\_compos\_0 k3\_scm\_inst) \quad (13)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k3\_scm\_inst) \wedge (v3\_compos\_0 \ k3\_scm\_inst) \quad (14)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k3\_scm\_inst) \wedge (v2\_compos\_0 \ k3\_scm\_inst) \quad (15)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k3\_scm\_inst) \wedge (v1\_compos\_0 \ k3\_scm\_inst) \quad (16)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 \ X0) \Rightarrow (l1\_struct\_0 \ X0) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. (l1\_memstr\_0 \ X1 \ X0) \Rightarrow (l2\_struct\_0 \ X1) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. (l1\_extpro\_1 \ X1 \ X0) \Rightarrow ((l1\_memstr\_0 \ X1 \ X0) \wedge (l1\_compos\_1 \ X1)) \quad (19)$$

Assume the following.

$$\begin{aligned} & (v1\_funct\_1 \ k9\_ami\_2) \wedge ((v1\_funct\_2 \ k9\_ami\_2 \ k3\_scm\_inst \ (k1\_funct\_2 \\ & \quad (k4\_card\_3 \ (k3\_relat\_1 \ k3\_ami\_2 \ k4\_ami\_2)) \ (k4\_card\_3 \ (k3\_relat\_1 \\ & \quad k3\_ami\_2 \ k4\_ami\_2))) \wedge (m1\_subset\_1 \ k9\_ami\_2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & \quad k3\_scm\_inst \ (k1\_funct\_2 \ (k4\_card\_3 \ (k3\_relat\_1 \ k3\_ami\_2 \ k4\_ami\_2)) \\ & \quad (k4\_card\_3 \ (k3\_relat\_1 \ k3\_ami\_2 \ k4\_ami\_2)))))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. m1\_subset\_1 \ (k6\_subset\_1 \ X0 \ X1) \ (k1\_zfmisc\_1 \ X0) \quad (21)$$

Assume the following.

$$(v1\_relat\_1 \ k4\_ami\_2) \wedge ((v4\_relat\_1 \ k4\_ami\_2 \ np\_2) \wedge ((v1\_funct\_1 \ k4\_ami\_2) \wedge (v1\_partfun1 \ k4\_ami\_2 \ np\_2))) \quad (22)$$

Assume the following.

$$\begin{aligned} & (v1\_funct\_1 \ k3\_ami\_2) \wedge ((v1\_funct\_2 \ k3\_ami\_2 \ k1\_ami\_2 \ np\_2) \wedge \\ & \quad (m1\_subset\_1 \ k3\_ami\_2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_ami\_2 \ np\_2)))) \end{aligned} \quad (23)$$

Assume the following.

$$(v1\_extpro\_1 \ k1\_ami\_3 \ np\_2) \wedge (l1\_extpro\_1 \ k1\_ami\_3 \ np\_2) \quad (24)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (k4\_struct\_0 X0 = u2\_struct\_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0) \Rightarrow (k2\_struct\_0 X0 = u1\_struct\_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (k1\_funct\_7 X0 X1 = X0) \quad (27)$$

Assume the following.

$$k1\_ami\_3 = g1\_extpro\_1 \ np\_2 \ k1\_ami\_2 \ (k1\_funct\_7 \ k5\_numbers \ k1\_ami\_2) \\ k3\_scm\_inst \ k3\_ami\_2 \ k4\_ami\_2 \ k9\_ami\_2 \quad (28)$$

Assume the following.

$$k1\_ami\_2 = k2\_xboole\_0 \ (k1\_tarski \ k5\_numbers) \ k2\_scm\_inst \quad (29)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (k8\_struct\_0 X0 = k7\_subset\_1 \ (u1\_struct\_0 \\ X0) \ (k2\_struct\_0 X0) \ (k1\_tarski \ (k4\_struct\_0 X0))) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (31)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0) \Rightarrow ((v1\_extpro\_1 X1 X0) \Rightarrow \\ (X1 = g1\_extpro\_1 X0 \ (u1\_struct\_0 X1) \ (u2\_struct\_0 X1) \ (u1\_compos\_1 \\ X1) \ (u1\_memstr\_0 X0 X1) \ (u2\_memstr\_0 X0 X1) \ (u1\_extpro\_1 X0 X1))) \quad (32)$$

**Theorem 1**  $k8\_struct\_0 \ k1\_ami\_3 = k2\_ami\_2$ .