

t28\_jgraph\_7 (TMUL-  
VJE8zbzgVHHiSPy9aVuPU7pFpbQZyKF)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_jordan17 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_sppol\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow (\forall X4. \\
& (v1\_xxreal\_0 X4) \Rightarrow (\forall X5.(v1\_xxreal\_0 X5) \Rightarrow (((k18\_euclid X0 = \\
& X5) \wedge ((k17\_euclid X1 = X3) \wedge ((r1\_xxreal\_0 X2 (k17\_euclid X0)) \wedge ( \\
& (r1\_xxreal\_0 (k17\_euclid X0) X3) \wedge ((r1\_xxreal\_0 X4 (k18\_euclid \\
& X1)) \wedge (r1\_xxreal\_0 (k18\_euclid X1) X5)))))) \Rightarrow ((r1\_xxreal\_0 X3 \\
& X2) \vee ((r1\_xxreal\_0 X5 X4) \vee (r1\_jordan6 (k1\_sppol\_2 X2 X3 X4 X5) X0 \\
& X1)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((( \\
& r1\_xxreal\_0 X3 (k18\_euclid X0)) \wedge ((r1\_xxreal\_0 (k18\_euclid X0) \\
& (k18\_euclid X1)) \wedge ((r1\_xxreal\_0 (k17\_euclid X0) (k17\_euclid X1)) \wedge \\
& (r1\_xxreal\_0 (k17\_euclid X1) X2)))) \Rightarrow ((r1\_xxreal\_0 X2 (k17\_euclid \\
& X0)) \vee ((r1\_xxreal\_0 (k18\_euclid X1) X3) \vee (r1\_jordan6 (k1\_sppol\_2 \\
& (k17\_euclid X0) X2 X3 (k18\_euclid X1)) X0 X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\
& (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\
& (r1\_xxreal\_0 X0 X2))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4. \\ & (v1\_xreal\_0 X4) \Rightarrow (\forall X5.(v1\_xreal\_0 X5) \Rightarrow (((k17\_euclid X0 = \\ & X3) \wedge ((k18\_euclid X1 = X4) \wedge ((r1\_xxreal\_0 X4 (k18\_euclid X0)) \wedge \\ & (r1\_xxreal\_0 (k18\_euclid X0) X5) \wedge (r1\_xxreal\_0 (k17\_euclid X1) \\ & X3)))) \Rightarrow ((r1\_xxreal\_0 X3 X2) \vee ((r1\_xxreal\_0 X5 X4) \vee ((r1\_xxreal\_0 \\ & (k17\_euclid X1) X2) \vee (r1\_jordan6 (k1\_sppol\_2 X2 X3 X4 X5) X0 X1)))))))))) \quad (5) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_xreal\_0 X0) \wedge \\ & ((v1\_xreal\_0 X1) \wedge ((v1\_xreal\_0 X2) \wedge (v1\_xreal\_0 X3)))) \Rightarrow (m1\_subset\_1 \\ & (k1\_sppol\_2 X0 X1 X2 X3) (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (m1\_subset\_1 (k18\_euclid X0) k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (m1\_subset\_1 (k17\_euclid X0) k1\_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \Rightarrow ((r1\_jordan17 X0 X1 X2 X3 X4) \Leftrightarrow (\neg(\neg(r1\_jordan6 X0 X1 X2) \wedge \\ & ((r1\_jordan6 X0 X2 X3) \wedge (r1\_jordan6 X0 X3 X4))) \wedge (\neg(r1\_jordan6 \\ & X0 X2 X3) \wedge (r1\_jordan6 X0 X3 X4) \wedge (r1\_jordan6 X0 X4 X1))) \wedge (\neg(r1\_jordan6 \\ & X0 X3 X4) \wedge (r1\_jordan6 X0 X4 X1) \wedge (r1\_jordan6 X0 X1 X2))) \wedge (\neg(r1\_jordan6 \\ & X0 X4 X1) \wedge (r1\_jordan6 X0 X1 X2) \wedge (r1\_jordan6 X0 X2 X3)))))))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (((r1\_xxreal\_0 (k18\_euclid X3) (k18\_euclid X0))\wedge(r1\_xxreal\_0 \\ & (k18\_euclid X0) (k18\_euclid X1))\wedge(r1\_xxreal\_0 (k17\_euclid X0) \\ & (k17\_euclid X1))\wedge(r1\_xxreal\_0 (k17\_euclid X1) (k17\_euclid X2))\wedge \\ & ((r1\_xxreal\_0 (k18\_euclid X3) (k18\_euclid X2))\wedge(r1\_xxreal\_0 \\ & (k18\_euclid X2) (k18\_euclid X1))\wedge(r1\_xxreal\_0 (k17\_euclid X3) \\ & (k17\_euclid X2))))))\Rightarrow((k17\_euclid X0 = k17\_euclid X2)\vee((k18\_euclid \\ & X3 = k18\_euclid X1)\vee((r1\_xxreal\_0 (k17\_euclid X3) (k17\_euclid \\ & X0))\vee(r1\_jordan17 (k1\_sppol\_2 (k17\_euclid X0) (k17\_euclid X2) \\ & (k18\_euclid X3) (k18\_euclid X1)) X0 X1 X2 X3)))))) \end{aligned}$$