

t21\_jgraph\_7 (TMQgLuShqJaNydMX-  
TwYeHS5xChzSfeC5pB8)

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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  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  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  $r1\_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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.

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

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4. \\
 & (v1\_xreal\_0 X4) \Rightarrow (((k17\_euclid X0 = k17\_euclid X1) \wedge ((r1\_xxreal\_0 \\
 & X3 (k18\_euclid X0)) \wedge (r1\_xxreal\_0 (k18\_euclid X1) X4))) \Rightarrow ((r1\_xxreal\_0 \\
 & X2 (k17\_euclid X0)) \vee ((r1\_xxreal\_0 (k18\_euclid X1) (k18\_euclid \\
 & X0)) \vee (r1\_jordan6 (k1\_sppol\_2 (k17\_euclid X0) X2 X3 X4) X0 X1))))))
 \end{aligned} \tag{2}$$

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.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4. \\
& (v1\_xreal\_0 X4) \Rightarrow (\forall X5.(v1\_xreal\_0 X5) \Rightarrow (((k17\_euclid X0 = \\
& X3) \wedge ((k17\_euclid X1 = X3) \wedge (r1\_xxreal\_0 X4 (k18\_euclid X1)) \wedge ( \\
& r1\_xxreal\_0 (k18\_euclid X0) X5)))) \Rightarrow ((r1\_xxreal\_0 X3 X2) \vee ((r1\_xxreal\_0 \\
& X5 X4) \vee ((r1\_xxreal\_0 (k18\_euclid X0) (k18\_euclid X1)) \vee (r1\_jordan6 \\
& (k1\_sppol\_2 X2 X3 X4 X5) X0 X1))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v1\_xreal\_0 X0) \wedge \\
& ((v1\_xreal\_0 X1) \wedge ((v1\_xreal\_0 X2) \wedge (v1\_xreal\_0 X3)))) \Rightarrow (m1\_subset\_1 \\
& (k1\_sppol\_2 X0 X1 X2 X3) (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (m1\_subset\_1 (k18\_euclid X0) k1\_numbers)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\
& np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
& np\_2))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
& np\_2))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))) \Rightarrow ((r1\_jordan17 X0 X1 X2 X3 X4) \Leftrightarrow (\neg(\neg(r1\_jordan6 X0 X1 X2) \wedge \\
& ((r1\_jordan6 X0 X2 X3) \wedge (r1\_jordan6 X0 X3 X4))) \wedge ((\neg(r1\_jordan6 \\
& X0 X2 X3) \wedge ((r1\_jordan6 X0 X3 X4) \wedge (r1\_jordan6 X0 X4 X1))) \wedge ((\neg(r1\_jordan6 \\
& X0 X3 X4) \wedge ((r1\_jordan6 X0 X4 X1) \wedge (r1\_jordan6 X0 X1 X2))) \wedge (\neg(r1\_jordan6 \\
& X0 X4 X1) \wedge ((r1\_jordan6 X0 X1 X2) \wedge (r1\_jordan6 X0 X2 X3))))))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\
& (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0))
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{9}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \tag{10}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ & (\forall X4.(v1\_xreal\_0 X4)\Rightarrow(\forall X5.(v1\_xreal\_0 X5)\Rightarrow(\forall X6. \\ & (v1\_xreal\_0 X6)\Rightarrow(\forall X7.(v1\_xreal\_0 X7)\Rightarrow(((k17\_euclid X0 = \\ & X4)\wedge((k17\_euclid X1 = X4)\wedge((k17\_euclid X2 = X5)\wedge((k17\_euclid X3 = \\ & X5)\wedge((r1\_xxreal\_0 X6 (k18\_euclid X0))\wedge((r1\_xxreal\_0 (k18\_euclid \\ & X1) X7)\wedge((r1\_xxreal\_0 X6 (k18\_euclid X3))\wedge(r1\_xxreal\_0 (k18\_euclid \\ & X2) X7))))))))))\Rightarrow((r1\_xxreal\_0 X5 X4)\vee((r1\_xxreal\_0 X7 X6)\vee((r1\_xxreal\_0 \\ & (k18\_euclid X1) (k18\_euclid X0))\vee((r1\_xxreal\_0 (k18\_euclid X2) \\ & (k18\_euclid X3))\vee(r1\_jordan17 (k1\_sppol\_2 X4 X5 X6 X7) X0 X1 X2 X3)))))))))) \end{aligned}$$