

t65\_jgraph\_7 (TMFrSr-  
Erm8JjUCMP5VMAD73qcwwMmB1LcJi)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_topmetr : \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_jgraph\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let

$k1\_real\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\
& (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4.((v1\_funct\_1 \\
& X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\
& (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid \\
& np\_2)))))) \Rightarrow (\forall X6.(m1\_subset\_1 X6 (u1\_struct\_0 k5\_topmetr)) \Rightarrow \\
& (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 k5\_topmetr)) \Rightarrow (((r2\_funct\_2 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X4 (k2\_jgraph\_2 (k10\_real\_1 np\_2 (k6\_xcmplx\_0 X1 X0)) (k4\_xcmplx\_0 \\
& (k7\_xcmplx\_0 (k2\_xcmplx\_0 X1 X0) (k6\_xcmplx\_0 X1 X0))) (k10\_real\_1 \\
& np\_2 (k6\_xcmplx\_0 X3 X2)) (k4\_xcmplx\_0 (k7\_xcmplx\_0 (k2\_xcmplx\_0 \\
& X3 X2) (k6\_xcmplx\_0 X3 X2)))))) \wedge ((r1\_xxreal\_0 X2 (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) X5 \\
& X6))) \wedge (r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X7)) X3))) \Rightarrow ((r1\_xxreal\_0 \\
& X3 X2) \vee ((r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X7)) (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) X5 \\
& X6))) \vee ((r1\_xxreal\_0 (k1\_real\_1 np\_1) (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 \\
& (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X6))) \wedge \\
& ((\neg r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X7)) (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 \\
& (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X6))) \wedge \\
& (r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X7)) np\_1)))))))))
\end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\
& (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4.((v1\_funct\_1 \\
& X4) \wedge ((v1\_funct\_2 X4 (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\
& (\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid \\
& np\_2)))))) \Rightarrow (\forall X6.(m1\_subset\_1 X6 (u1\_struct\_0 k5\_topmetr)) \Rightarrow \\
& (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 k5\_topmetr)) \Rightarrow (((r2\_funct\_2 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X4 (k2\_jgraph\_2 (k10\_real\_1 np\_2 (k6\_xcmplx\_0 X1 X0)) (k4\_xcmplx\_0 \\
& (k7\_xcmplx\_0 (k2\_xcmplx\_0 X1 X0) (k6\_xcmplx\_0 X1 X0))) (k10\_real\_1 \\
& np\_2 (k6\_xcmplx\_0 X3 X2)) (k4\_xcmplx\_0 (k7\_xcmplx\_0 (k2\_xcmplx\_0 \\
& X3 X2) (k6\_xcmplx\_0 X3 X2)))))) \wedge ((r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) X5 \\
& X6)) X3) \wedge (r1\_xxreal\_0 X2 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 \\
& k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) X5 X7)))))) \Rightarrow ((r1\_xxreal\_0 \\
& X3 X2) \vee ((r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X6)) (k18\_euclid (k3\_funct\_2 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) X5 \\
& X7))) \vee ((r1\_xxreal\_0 (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X6)) np\_1) \wedge ((-r1\_xxreal\_0 \\
& (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 \\
& (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 \\
& (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 \\
& (k15\_euclid np\_2)) X5 X4) X6)) (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 \\
& k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 \\
& k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid \\
& np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X7))) \wedge (r1\_xxreal\_0 \\
& (k1\_real\_1 np\_1) (k18\_euclid (k3\_funct\_2 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_partfun1 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X5 X4) X7)))))))))
\end{aligned}$$