

t17\_jgraph\_6  
(TMM9bS3c3z1RV47sTnQ7c7HiyanUWZZJ69o)

October 27, 2020

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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_topmetr : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let

$r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  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.(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.((\neg v1\_xboole\_0 X4) \wedge ((v2\_compts\_1 X4 (k15\_euclid \\
& np\_2)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))))) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))) \Rightarrow (((X4 = ReplSep (toset (\lambda X6 : \iota.m1\_subset\_1 \\
& X6 (u1\_struct\_0 (k15\_euclid np\_2)))) (\lambda X6 : \iota.k12\_euclid \\
& X6 = np\_1) (\lambda X6 : \iota.X6)) \wedge ((r1\_jordan6 X4 X0 X1) \wedge ((r1\_jordan6 \\
& X4 X1 X2) \wedge (r1\_jordan6 X4 X2 X3)))) \Rightarrow (\forall X6.((v1\_funct\_1 X6) \wedge \\
& ((v1\_funct\_2 X6 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid \\
& np\_2))) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\forall X7. \\
& ((v1\_funct\_1 X7) \wedge ((v1\_funct\_2 X7 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\
& (\neg (v5\_pre\_topc X6 k5\_topmetr (k15\_euclid np\_2)) \wedge ((v2\_funct\_1 \\
& X6) \wedge ((v5\_pre\_topc X7 k5\_topmetr (k15\_euclid np\_2)) \wedge ((v2\_funct\_1 \\
& X7) \wedge ((X5 = ReplSep (toset (\lambda X8 : \iota.m1\_subset\_1 X8 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))) (\lambda X8 : \iota.r1\_xxreal\_0 (k12\_euclid X8) \\
& np\_1) (\lambda X8 : \iota.X8)) \wedge ((k1\_funct\_1 X6 k6\_numbers = X2) \wedge ((k1\_funct\_1 \\
& X6 np\_1 = X0) \wedge ((k1\_funct\_1 X7 k6\_numbers = X1) \wedge ((k1\_funct\_1 X7 \\
& np\_1 = X3) \wedge ((r1\_tarski (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X6) X5) \wedge ((r1\_tarski (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X7) X5) \wedge (r1\_xboole\_0 (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X6) (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X7))))))))))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid \\
& np\_2)))))) \Rightarrow (\neg (v5\_pre\_topc X0 k5\_topmetr (k15\_euclid np\_2)) \wedge \\
& ((v2\_funct\_1 X0) \wedge (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\
& X1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2))) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr) \\
& (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\neg (k1\_funct\_1 X1 k6\_numbers = \\
& k1\_funct\_1 X0 np\_1) \wedge ((k1\_funct\_1 X1 np\_1 = k1\_funct\_1 X0 k6\_numbers) \wedge \\
& ((k2\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X1 = k2\_relset\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X0) \wedge ((v5\_pre\_topc X1 k5\_topmetr \\
& (k15\_euclid np\_2)) \wedge (v2\_funct\_1 X1))))))))) \\
& \tag{2}
\end{aligned}$$

**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.((\neg v1\_xboole\_0 X4) \wedge ((v2\_compts\_1 X4 (k15\_euclid \\
& np\_2)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))))) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))) \Rightarrow (((X4 = ReplSep (toset (\lambda X6 : \iota.m1\_subset\_1 \\
& X6 (u1\_struct\_0 (k15\_euclid np\_2)))) (\lambda X6 : \iota.k12\_euclid \\
& X6 = np\_1) (\lambda X6 : \iota.X6)) \wedge ((r1\_jordan6 X4 X0 X1) \wedge ((r1\_jordan6 \\
& X4 X1 X2) \wedge (r1\_jordan6 X4 X2 X3)))) \Rightarrow (\forall X6.((v1\_funct\_1 X6) \wedge \\
& ((v1\_funct\_2 X6 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid \\
& np\_2))) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\forall X7. \\
& ((v1\_funct\_1 X7) \wedge ((v1\_funct\_2 X7 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \wedge (m1\_subset\_1 X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\
& (\neg(v5\_pre\_topc X6 k5\_topmetr (k15\_euclid np\_2)) \wedge ((v2\_funct\_1 \\
& X6) \wedge ((v5\_pre\_topc X7 k5\_topmetr (k15\_euclid np\_2)) \wedge ((v2\_funct\_1 \\
& X7) \wedge ((X5 = ReplSep (toset (\lambda X8 : \iota.m1\_subset\_1 X8 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))) (\lambda X8 : \iota.r1\_xxreal\_0 (k12\_euclid X8) \\
& np\_1) (\lambda X8 : \iota.X8)) \wedge ((k1\_funct\_1 X6 k6\_numbers = X2) \wedge ((k1\_funct\_1 \\
& X6 np\_1 = X0) \wedge ((k1\_funct\_1 X7 k6\_numbers = X3) \wedge ((k1\_funct\_1 X7 \\
& np\_1 = X1) \wedge ((r1\_tarski (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X6) X5) \wedge ((r1\_tarski (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X7) X5) \wedge (r1\_xboole\_0 (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X6) (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X7))))))))))))))
\end{aligned}$$