

t29\_integra6  
(TMKKYhR7pmy3g3rUFNX7Z4CRgYPZbyXegty)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_integra5 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_fcont\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\
& k1\_numbers)))) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\forall X4.((v1\_funct\_1 \\
& X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers)))) \Rightarrow \\
& (((r1\_xxreal\_0 X0 X1) \wedge ((r1\_integra5 (k3\_integra5 X0 X1) X2) \wedge ( \\
& (v1\_comseq\_2 (k2\_partfun1 k1\_numbers k1\_numbers X2 (k3\_integra5 \\
& X0 X1))) \wedge (r1\_tarski (k3\_integra5 X0 X1) (k9\_xtuple\_0 X2)) \wedge (( \\
& r1\_tarski (k2\_rcomp\_1 X0 X1) (k9\_xtuple\_0 X4)) \wedge ((\forall X5.( \\
& v1\_xreal\_0 X5) \Rightarrow ((X5 \in k2\_rcomp\_1 X0 X1) \Rightarrow (k1\_seq\_1 X4 X5 = k4\_integra5 \\
& X0 X5 X2))) \wedge ((X3 \in k2\_rcomp\_1 X0 X1) \wedge (r1\_fcont\_1 X2 X3)))))) \Rightarrow \\
& ((r1\_fdiff\_1 X4 X3) \wedge (k1\_fdiff\_1 X4 X3 = k1\_seq\_1 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\
& k1\_numbers)))) \Rightarrow (\exists X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \wedge (r1\_tarski \\
& (k2\_rcomp\_1 X0 X1) (k9\_xtuple\_0 X3)) \wedge (\forall X4.(v1\_xreal\_0 \\
& X4) \Rightarrow ((X4 \in k2\_rcomp\_1 X0 X1) \Rightarrow (k1\_seq\_1 X3 X4 = k4\_integra5 X0 X4 X2))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\ & k1\_numbers)))) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (\neg(r1\_xreal\_0 \\ X0 X1) \wedge ((r1\_integra5 (k3\_integra5 X0 X1) X2) \wedge ((v1\_comseq\_2 (k2\_partfun1 \\ k1\_numbers k1\_numbers X2 (k3\_integra5 X0 X1))) \wedge ((r1\_tarski (k3\_integra5 \\ X0 X1) (k9\_xtuple\_0 X2)) \wedge ((X3 \in k2\_rcomp\_1 X0 X1) \wedge ((r1\_fcont\_1 \\ X2 X3) \wedge (\forall X4.((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (\neg(r1\_tarski (k2\_rcomp\_1 \\ X0 X1) (k9\_xtuple\_0 X4)) \wedge ((\forall X5.(v1\_xreal\_0 X5) \Rightarrow ((X5 \in k2\_rcomp\_1 \\ X0 X1) \Rightarrow (k1\_seq\_1 X4 X5 = k4\_integra5 X0 X5 X2))) \wedge ((r1\_fdiff\_1 X4 \\ X3) \wedge (k1\_fdiff\_1 X4 X3 = k1\_seq\_1 X2 X3)))))))))))))) \end{aligned}$$