

# t41\_bhsp\_4 (TMPpUrjskvmqWxM- Rbhm1GrGWTZYiCX1ZCrM)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v2\_bhsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_bhsp\_1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  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  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k7\_series\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_bhsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_series\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_series\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\forall X3.(m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (r1\_xxreal\_0 (k3\_bhsp\_1 X0 (k5\_algstr\_0 X0 (k1\_normsp\_1 X0 (k1\_bhsp\_4 X0 X1) X3) (k1\_normsp\_1 X0 (k1\_bhsp\_4 X0 X1) X2))) (k18\_complex1 (k9\_real\_1 (k1\_seq\_1 (k3\_series\_1 (k2\_bhsp\_2 X0 X1)) X3) (k1\_seq\_1 (k3\_series\_1 (k2\_bhsp\_2 X0 X1)) X2))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (4)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (5)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge \\ & ((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 \\ & X0)\wedge((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge \\ & ((v2\_bhspace\_1 X0)\wedge(l1\_bhspace\_1 X0))))))))))\wedge((v1\_funct\_1 X1)\wedge \\ & ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X1 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0))))))\Rightarrow \\ & ((v1\_funct\_1 (k2\_bhspace\_2 X0 X1))\wedge((v1\_funct\_2 (k2\_bhspace\_2 X0 X1) \\ & k5\_numbers k1\_numbers)\wedge(m1\_subset\_1 (k2\_bhspace\_2 X0 X1) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))\Rightarrow \\ & (\forall X1.(v7\_ordinal1 X1)\Rightarrow(\forall X2.(v7\_ordinal1 X2)\Rightarrow( \\ & k7\_series\_1 X0 X1 X2 = k9\_real\_1 (k6\_series\_1 X0 X1) (k6\_series\_1 \\ & X0 X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))\Rightarrow \\ & (\forall X1.(v7\_ordinal1 X1)\Rightarrow(k6\_series\_1 X0 X1 = k1\_seq\_1 (k3\_series\_1 \\ & X0) X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
& X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\
& ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\forall X3. \\
& (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (k4\_bhsp\_4 X0 X1 X2 X3 = \\
& k5\_algstr\_0 X0 (k3\_bhsp\_4 X0 X1 X2) (k3\_bhsp\_4 X0 X1 X3))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
& X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\
& ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (k3\_bhsp\_4 \\
& X0 X1 X2 = k1\_normsp\_1 X0 (k1\_bhsp\_4 X0 X1) X2)))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{12}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v2\_bhsp\_1 \\
& X0) \wedge (l1\_bhsp\_1 X0)))))))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\
& ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X1 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\forall X3. \\
& (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (r1\_xxreal\_0 (k3\_bhsp\_1 \\
& X0 (k4\_bhsp\_4 X0 X1 X3 X2) (k18\_complex1 (k7\_series\_1 (k2\_bhsp\_2 \\
& X0 X1) X3 X2))))))
\end{aligned}$$