

t20_bcialg_4
(TMQcDjS475PJcPswaCP4cU4AYbuxxzJu65c)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_bcialg_1 : \iota \Rightarrow o$ be given. Let $v4_bcialg_1 : \iota \Rightarrow o$ be given. Let $v5_bcialg_1 : \iota \Rightarrow o$ be given. Let $v7_bcialg_1 : \iota \Rightarrow o$ be given. Let $v2_bcialg_4 : \iota \Rightarrow o$ be given. Let $l1_bcialg_4 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_bcialg_4 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{1}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \ X0) \wedge ((v3_bcialg_1 \ X0) \wedge ((v4_bcialg_1 \\ & \ X0) \wedge ((v5_bcialg_1 \ X0) \wedge ((v7_bcialg_1 \ X0) \wedge ((v2_bcialg_4 \ X0) \wedge \\ & (l1_bcialg_4 \ X0)))))) \Rightarrow ((v1_funct_1 \ (k5_bcialg_4 \ X0)) \wedge ((v1_funct_2 \\ & (k5_bcialg_4 \ X0) \ (k2_zfmisc_1 \ (u1_struct_0 \ X0) \ k5_numbers) \ (u1_struct_0 \\ & \ X0)) \wedge (m1_subset_1 \ (k5_bcialg_4 \ X0) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & \ (k2_zfmisc_1 \ (u1_struct_0 \ X0) \ k5_numbers) \ (u1_struct_0 \ X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (k6_bcialg_4 X0 \\
& X1 X2 = k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) \\
& (k5_bcialg_4 X0) X1 X2))) \tag{5}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\
& X1 (k2_zfmisc_1 (u1_struct_0 X0) k5_numbers) (u1_struct_0 X0)) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
& X0) k5_numbers) (u1_struct_0 X0)))))) \Rightarrow ((X1 = k5_bcialg_4 X0) \Leftrightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k2_binop_1 (\\
& u1_struct_0 X0) k5_numbers (u1_struct_0 X0) X1 X2 k6_numbers = k4_struct_0 \\
& X0) \wedge (\forall X3.(m1_subset_1 X3 k5_numbers) \Rightarrow (k2_binop_1 (u1_struct_0 \\
& X0) k5_numbers (u1_struct_0 X0) X1 X2 (k2_nat_1 X3 np_1) = k1_bcialg_4 \\
& X0 (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) X1 \\
& X2 X3) X2)))))) \tag{6}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (k6_bcialg_4 X0 X1 k6_numbers = k4_struct_0 X0))
\end{aligned}$$