

l42_binop_2
(TMP6j48CgPo5HMhQ17zZbyT9LrHSRdSLstS)

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Let $r3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k48_binop_2 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k24_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X2 X0) \wedge \\ & (m1_subset_1 X3 X0))) \Rightarrow (k3_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (k24_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (6)$$

Assume the following.

$$(v1_funct_1 \ k48_binop_2) \wedge ((v1_funct_2 \ k48_binop_2 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers) \ k5_numbers) \wedge (m1_subset_1 \ k48_binop_2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers) \ k5_numbers)))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (\forall X2. ((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \Rightarrow ((r3_binop_1 \ X0 \ X1 \ X2) \Leftrightarrow ((r1_binop_1 \ X0 \ X1 \ X2) \wedge (r2_binop_1 \ X0 \ X1 \ X2))) \quad (8)$$

Assume the following.

$$\forall X0. ((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers) \ k5_numbers) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers) \ k5_numbers)))))) \Rightarrow ((X0 = k48_binop_2) \Leftrightarrow (\forall X1. (v7_ordinal1 \ X1) \Rightarrow (\forall X2. (v7_ordinal1 \ X2) \Rightarrow (k1_binop_1 \ X0 \ X1 \ X2 = k24_binop_2 \ X1 \ X2)))) \quad (9)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (\forall X2. ((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \Rightarrow ((r2_binop_1 \ X0 \ X1 \ X2) \Leftrightarrow (\forall X3. (m1_subset_1 \ X3 \ X0) \Rightarrow (k3_binop_1 \ X0 \ X2 \ X3 \ X1 = X3)))) \quad (10)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (\forall X2. ((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \Rightarrow ((r1_binop_1 \ X0 \ X1 \ X2) \Leftrightarrow (\forall X3. (m1_subset_1 \ X3 \ X0) \Rightarrow (k3_binop_1 \ X0 \ X2 \ X1 \ X3 = X3)))) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k24_binop_2 \ X0 \ X1 = k24_binop_2 \ X1 \ X0) \quad (12)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (14)$$

Theorem 1 *r3_binop_1 k5_numbers np_1 k48_binop_2.*