

## t61\_integr11

(TMdixEk7kBww6BGi18uHX7aFvPbGLHvfmro)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_measure5 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_rcomp\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k29\_sin\_cos : \iota$  be given. Let  $v1\_fcont\_1 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $k5\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & \quad k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ( \\
 & \quad v2\_measure5 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow \\
 & (\forall X2.((v3\_rcomp\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\
 & \quad (((r1\_tarski X1 X2) \wedge ((k9\_xtuple\_0 k29\_sin\_cos = X2) \wedge ((k9\_xtuple\_0 \\
 & \quad k29\_sin\_cos = k9\_xtuple\_0 X0) \wedge (\forall X3.(m1\_subset\_1 X3 k1\_numbers) \Rightarrow \\
 & \quad ((X3 \in X2) \Rightarrow ((k1\_seq\_1 X0 X3 = k10\_real\_1 np\_1 (k5\_square\_1 (k3\_funct\_2 \\
 & \quad k1\_numbers k1\_numbers k19\_sin\_cos X3))) \wedge (k3\_funct\_2 k1\_numbers \\
 & \quad k1\_numbers k19\_sin\_cos X3 \neq k6\_numbers)))))) \wedge (v1\_fcont\_1 (k2\_partfun1 \\
 & \quad k1\_numbers k1\_numbers X0 X1)))))) \Rightarrow (k2\_integra5 X1 X0 = k9\_real\_1 \\
 & \quad (k1\_seq\_1 k29\_sin\_cos (k4\_seq\_4 X1)) (k1\_seq\_1 k29\_sin\_cos (k5\_seq\_4 \\
 & \quad X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\
 & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
 & \quad (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (k3\_funct\_2 X0 \\
 & \quad X1 X2 X3 = k1\_funct\_1 X2 X3)
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (3)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (4)$$

Assume the following.

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

Assume the following.

$$(v1\_funct\_1\ k19\_sin\_cos)\wedge((v1\_funct\_2\ k19\_sin\_cos\ k1\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ k19\_sin\_cos\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v2\_measure5\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers))))\Rightarrow(\forall X1.((v3\_rcomp\_1\ X1)\wedge \\ & (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k1\_numbers)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers))))\Rightarrow \\ & (((r1\_tarski\ X0\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ k1\_numbers)\Rightarrow \\ & ((X3 \in X1)\Rightarrow((k1\_seq\_1\ X2\ X3 = k10\_real\_1\ np\_1\ (k5\_square\_1\ (k1\_seq\_1\ k19\_sin\_cos\ X3)))\wedge(k1\_seq\_1\ k19\_sin\_cos\ X3\neq k6\_numbers))))\wedge \\ & ((k9\_xtuple\_0\ k29\_sin\_cos = X1)\wedge((X1 = k9\_xtuple\_0\ X2)\wedge(v1\_fcont\_1\ (k2\_partfun1\ k1\_numbers\ k1\_numbers\ X2\ X0))))))\Rightarrow(k2\_integra5\ X0\ X2 = k9\_real\_1\ (k1\_seq\_1\ k29\_sin\_cos\ (k4\_seq\_4\ X0))\ (k1\_seq\_1\ k29\_sin\_cos\ (k5\_seq\_4\ X0)))) \end{aligned}$$