

# t7\_mesfunc9 (TMKUMeoxLfeCbuKDNz-foN9GyGxGJ2pP1Bja)

October 27, 2020

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  $k7\_numbers : \iota$  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  $v7\_mesfunc5 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_mesfunc5 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k3\_extreal1 : \iota \Rightarrow \iota$  be given. Let  $k4\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v8\_mesfunc5 : \iota \Rightarrow o$  be given. Let  $k1\_supinf\_1 : \iota$  be given. Let  $v9\_mesfunc5 : \iota \Rightarrow o$  be given. Let  $k2\_supinf\_1 : \iota$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v10\_mesfunc5 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k7\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k7\_numbers)))))) \Rightarrow \\ & ((v9\_mesfunc5 X0) \Rightarrow ((\neg v8\_mesfunc5 X0) \wedge (\neg v7\_mesfunc5 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k7\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k7\_numbers)))))) \Rightarrow \\ & ((v8\_mesfunc5 X0) \Rightarrow ((\neg v9\_mesfunc5 X0) \wedge (\neg v7\_mesfunc5 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 k5\_numbers X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & X0)))))) \wedge (v7\_ordinal1 X2)) \Rightarrow (k8\_nat\_1 X0 X1 X2 = k1\_funct\_1 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_valued\_0 \\ & X0))) \Rightarrow (k12\_supinf\_2 X0 X1 = k1\_funct\_1 X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$v2\_membered\ k7\_numbers \quad (5)$$

Assume the following.

$$m1\_subset\_1\ k2\_supinf\_1\ k7\_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ k5\_numbers\ k7\_numbers) \wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k7\_numbers)))))) \Rightarrow \\ & (m1\_subset\_1\ (k2\_mesfunc5\ X0)\ k7\_numbers) \end{aligned} \quad (7)$$

Assume the following.

$$m1\_subset\_1\ k1\_supinf\_1\ k7\_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ k5\_numbers\ k7\_numbers) \wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k7\_numbers)))))) \Rightarrow \\ & ((v10\_mesfunc5\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k7\_numbers) \Rightarrow \\ & ((X1 = k2\_mesfunc5\ X0) \Leftrightarrow (\neg(\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (\neg(X1 = X2) \wedge \\ & (\forall X3.(v1\_xreal\_0\ X3) \Rightarrow (\neg(\neg r1\_xxreal\_0\ X3\ k6\_numbers) \wedge \\ & (\forall X4.(v7\_ordinal1\ X4) \Rightarrow (\exists X5.(v7\_ordinal1\ X5) \wedge \\ & (r1\_xxreal\_0\ X4\ X5) \wedge (r1\_xxreal\_0\ X3\ (k3\_extreal1\ (k4\_supinf\_2 \\ & (k8\_nat\_1\ k7\_numbers\ X0\ X5)\ X1)))))))))) \wedge (v7\_mesfunc5\ X0))) \wedge \\ & (\neg(X1 = k1\_supinf\_1) \wedge (v8\_mesfunc5\ X0) \wedge (\neg(X1 = k2\_supinf\_1) \wedge \\ & (v9\_mesfunc5\ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ k5\_numbers\ k7\_numbers) \wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k7\_numbers)))))) \Rightarrow \\ & ((v10\_mesfunc5\ X0) \Leftrightarrow (\neg(\neg v7\_mesfunc5\ X0) \wedge (\neg v8\_mesfunc5\ X0) \wedge \\ & (\neg v9\_mesfunc5\ X0)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v1\_relat\_1\ X2) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v2\_membered\ X1) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v2\_valued\_0\ X2)) \end{aligned} \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k7\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k7\_numbers)))))) \Rightarrow \\ & ((\neg(v7\_mesfunc5 X0) \wedge (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(k2\_mesfunc5 \\ & X0 = X1) \wedge (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\neg(\neg r1\_xxreal\_0 X2 k6\_numbers) \wedge \\ & (\forall X3.(v7\_ordinal1 X3) \Rightarrow (\exists X4.(v7\_ordinal1 X4) \wedge ( \\ & (r1\_xxreal\_0 X3 X4) \wedge (r1\_xxreal\_0 X2 (k3\_extreal1 (k4\_supinf\_2 \\ & (k12\_supinf\_2 X0 X4) (k2\_mesfunc5 X0)))))))))) \wedge ((v8\_mesfunc5 \\ & X0) \Rightarrow (k2\_mesfunc5 X0 = k1\_supinf\_1)) \wedge ((v9\_mesfunc5 X0) \Rightarrow (k2\_mesfunc5 \\ & X0 = k2\_supinf\_1)))) \end{aligned}$$