

# t20\_dist\_1 (TMS- gDdf2ZrZNVKoFy4N8JzTeMES6CvHmfEr)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_dist\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_dist\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k6\_dist\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k7\_dist\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_matrprob : \iota \Rightarrow o$  be given. Let  $k4\_dist\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_dist\_1 X1 X0) \Rightarrow ((v1\_matrprob X1) \wedge (m2\_finseq\_1 X1 k1\_numbers))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_finset\_1 X0) \wedge ((v1\_matrprob X1) \wedge \\ & m1\_finseq\_1 X1 k1\_numbers)) \Rightarrow (m2\_subset\_1 (k8\_dist\_1 X0 X1) ( \\ & k1\_zfmisc\_1 (k3\_finseq\_2 X0)) (k6\_dist\_1 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1\_finset\_1 X0) \Rightarrow (\forall X1. ((v1\_matrprob X1) \wedge \\ & m2\_finseq\_1 X1 k1\_numbers) \Rightarrow ((\exists X2. (m2\_finseq\_1 X2 X0) \wedge \\ & (k4\_dist\_1 X0 X2 = X1)) \Rightarrow (\forall X2. (m2\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k3\_finseq\_2 X0)) (k6\_dist\_1 X0)) \Rightarrow ((X2 = k8\_dist\_1 X0 X1) \Leftrightarrow (k3\_funct\_2 \\ & (k6\_dist\_1 X0) (k3\_finseq\_2 k1\_numbers) (k7\_dist\_1 X0) X2 = X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & ((v1\_matrprob X1) \wedge (m2\_finseq\_1 X1 k1\_numbers)) \Rightarrow ((m1\_dist\_1 \\ & X1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = k5\_card\_1 X0) \wedge (\exists X2. (m2\_finseq\_1 \\ & X2 X0) \wedge (k4\_dist\_1 X0 X2 = X1)))))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_dist\_1 X1 X0) \Rightarrow ((m2\_subset\_1 (k8\_dist\_1 X0 X1) (k1\_zfmisc\_1 \\ & (k3\_finseq\_2 X0)) (k6\_dist\_1 X0)) \wedge (k3\_funct\_2 (k6\_dist\_1 X0) \\ & (k3\_finseq\_2 k1\_numbers) (k7\_dist\_1 X0) (k8\_dist\_1 X0 X1) = X1))) \end{aligned}$$