

# t5\_vectmetr (TMQZcPHhBwer- wJvtWSxbNKCwwaPZjxyYVta)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_metric\_1 : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_vectmetr : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge ((v1\_funct\_1 X5) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X2 X3)))) \Rightarrow (k1\_partfun1 X0 X1 X2 X3 X4 X5 = k3\_relat\_1 X4 X5) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (l1\_metric\_1 \\ & X0)) \wedge (((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)) \wedge ((v2\_funct\_2 X1 (u1\_struct\_0 X0)) \wedge ((v3\_vectmetr X1 X0) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)))))) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) \\ & (u1\_struct\_0 X0)) \wedge ((v2\_funct\_2 X2 (u1\_struct\_0 X0)) \wedge ((v3\_vectmetr \\ & X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0)))))) \Rightarrow ((v1\_funct\_1 (k3\_relat\_1 X2 X1)) \wedge \\ & ((v1\_funct\_2 (k3\_relat\_1 X2 X1) (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)) \wedge ((v2\_funct\_2 (k3\_relat\_1 X2 X1) (u1\_struct\_0 X0)) \wedge (v3\_vectmetr \\ & (k3\_relat\_1 X2 X1) X0)))) \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_metric\_1 X0)) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)) \wedge ((v2\_funct\_2 X1 (u1\_struct\_0 X0)) \wedge ((v3\_vectmetr X1 X0) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)))))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0)) \wedge ((v2\_funct\_2 X2 (u1\_struct\_0 X0)) \wedge ((v3\_vectmetr \\ & X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0)))))))) \Rightarrow ((v2\_funct\_2 (k1\_partfun1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0) (u1\_struct\_0 X0) (u1\_struct\_0 X0) X2 X1) (u1\_struct\_0 \\ & X0)) \wedge (v3\_vectmetr (k1\_partfun1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0) (u1\_struct\_0 X0) X2 X1) X0))) \end{aligned}$$