

3-1-A 数学用語の定義

N_5 の定義: $N_5 = \{(i, j, 4) \mid i, j \in 4 \text{ and } i \leq j\}$

N_5 の定義: $N_5 = N_{01} \times N_5$

$N_{6, n}$ の定義: $\forall n \in \mathbb{N}; N_{6, n} = N_{2, n} \cup N_3 \cup N_5$

N_{05} の定義: $N_{05} = 4 \times 4 \times 4$

F_5 の定義: $F_5 = \mathbb{R}(N_5)$

$F_{6, n}$ の定義: $\forall n \in \mathbb{N}; F_{6, n} = \mathbb{R}(N_{6, n})$

F_{05} の定義: $F_{05} = \{f \mid f \in \mathbb{R}(N_{05}) \text{ and } \forall (i, j, k) \in N_{05}; f(i, j, k) = f(i, k, j)\}$

ξ の定義: $\forall \xi \in N_{01}; \forall i, j \in 4; \forall f \in F_5;$

$$[i \leq j \Rightarrow \xi(\xi, i, j; f) = f(\xi, i, j, 4)] \\ \text{and } [i > j \Rightarrow \xi(\xi, i, j; f) = f(\xi, j, i, 4)]$$

$\hat{g}$ の定義: $\forall \xi \in N_{01}; \forall i, j \in 4; \forall f \in F_5;$

$$\sum_{k=1}^4 \hat{g}(\xi, i, k; f) \xi(\xi, k, j; f) = \delta(i, j)$$

Γ の定義: $\forall \xi \in N_{01}; \forall i, j, k \in 4; \forall f \in F_5;$

$$\Gamma(\xi, i, j, k; f) = (1/2) [\partial_k \xi(\xi, i, j; f) + \partial_j \xi(\xi, i, k; f) - \partial_i \xi(\xi, j, k; f)]$$

$\hat{\Gamma}$ の定義: $\forall \xi \in N_{01}; \forall i, j, k \in 4; \forall f \in F_5;$

$$\hat{\Gamma}(\xi, i, j, k; f) = \sum_{r=1}^4 \hat{g}(\xi, i, r; f) \Gamma(\xi, r, j, k; f)$$