Notation For any linear operator T on V over F and any scalar $a \in F$, let $t_a \overset{def}{=} T - a \cdot I_V$

Def Let $T \in \mathbb{L}(V)$ for vector space V over F. For any $a \in F$, define $E_T(a) = N(T_a)$

Def 純量重數 The *multiplicity* of a scalar a w.r.t. $T \in \mathbb{L}(V)$ is the largest integer m with $(t-a)^m | f_T(t)$

Def 推廣特徵組 Let $T \in \mathbb{L}(V)$ for V over F. (λ, x) with $\lambda \in F$ and $x \in V \setminus \{0_V\}$ is a *generalized eigenpair* of T if $T_\lambda^l(x) = 0_V$ holds for some positive integer l.

Obs 暖身觀察 If (λ, x) is a generalized eigenpair of T, then λ is an eigenvalue of T.

Def $E_T(a) \to G_T(a)$ Let $T \in \mathbb{L}(V)$ for V over F. For any $a \in F$, let $G_T(a) = \{x \in V | T_a^l(x) = 0_V$ holds for a positive integer $l\}$