

*a. An-Nakayama algebra with length  $n$  and generators  $m$*

$$Q_n : 1 \xrightarrow{\alpha_1} 2 \xrightarrow{\alpha_2} 3 \xrightarrow{\alpha_3} \dots \longrightarrow \dots \xrightarrow{\alpha_{n-2}} n-1 \xrightarrow{\alpha_{n-1}} n$$

*b. Mobility Theorem*

**Corollary 5.7.** *If  $I_i \cong J_i$ ,  $I_i$  and  $I_j$  are irrelevant,  $J_i$  and  $J_j$  are irrelevant,  $\forall i = 1, 2, 3, \dots, m$  and  $i \neq j$ , then*

$$q(A/\sum_{i=1}^m I_i) = q(A/\sum_{i=1}^m J_i)$$

**Theorem 6.4.**  $q(A_n/I_{T_1}) = 2^m(n-m)!$

**Theorem 7.2.**  $q(A_n/I_{T_2}) = \frac{a_{m+1}n!}{(2m+1)!}$

*c. Bound estimators of the given algebra  
(With generator  $T_1$  and  $T_2$ )*