

- **In all Markovian queues the underlying CTMC chain is**
 - a) The number of people in queue at time t , $L_q(t)$.
 - b) The number of people in the system at time t , $L(t)$.
 - c) The time in queue, $W_q(t)$.
 - d) The time in system, $W(t)$.
- **Little's law states that**
 - a) $W_q = W + 1/\mu$.
 - b) $L = \mu W$
 - c) $W = L/\lambda$
 - d) $L_q = \lambda W_q$
- **In $M/M/1$, L_q can be found as follows**
 - a) $L_q = \sum_{n=2}^{\infty} (n-2)P_n$
 - b) $L_q = \sum_{n=1}^{\infty} nP_n - \rho$
 - c) $L_q = L - 1$
 - d) $L_q = \sum_{n=2}^{\infty} (n-1)P_n$
- **In $M/M/1/K$,**
 - a) Limiting probabilities exist only if $\rho < 1$.
 - b) Limiting probabilities are obtained by “truncating” $M/M/1$.
 - c) All customers eventually get served.
 - d) $W_q < (K-1)/[\lambda(1-P_K)]$.