QUEUE

- RATE OF NEW CUSTOMERS: $1/3$ } PER MINUTE
- RATE OF SERVICE: $1/2$
- NO MAXIMUM LENGTH
- BIRTH AND DEATH PROCESS: $\lambda = 1/3$, $\mu = \frac{1}{2}$
- WHAT IS LONG-TERM PROB. OF EMPTY QUEUE?

$\Rightarrow$ GEOMETRIC$\left(0, 1 - \frac{\lambda}{\mu}\right)$ = GEOMETRIC$\left(0; 1 - \frac{1/3}{1/2}\right)$ = GEOMETRIC$\left(0, 1/3\right)$

$= 2/3$

GEOMETRIC(p):

0	$1-p$
1	$(1-p)p$
2	$(1-p)p^2$
3	$(1-p)p^3$ ...