1. Generalized Little's Result:

a) Relate the second moment of the number in the system to the second moment of the time in the system.

b) Repeat a) for the third moment.

c) Generalize the results for the nth moment.

2. Consider a M/G/1 system in which the service time is zero with probability p and otherwise $pe^{-px}$ for $x \geq 0$. Find:

a) Average service time.

b) Variance of the service time.

c) Average delay

3. Problem 2.39