Question 1

1 point possible (graded)

Let N be the average number of clients in the system, X the average throughput and R the average sojourn time. With these notations Little's law states that :

- N = R/X
- N =R X
- X = R/N

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You have used 0 of 2 attempts

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Question 2

1 point possible (graded)

Recall that the average number of customers in a M/M/1 queue is

$$N = \frac{\rho}{1-\rho}$$

What is the limit of N when the load ρ tends to 1?

- 0
- 1
- ∞ (infinite)

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Question 2

1 point possible (graded)

Recall that the average number of customers in a M/M/1 queue is

$$N = \frac{\rho}{1-\rho}$$

What is the limit of N when the load ρ tends to 0?

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Question 3

0.0/2.0 points (graded)

Which of the following statements are correct?

- [ ] The average service time is S = 1/μ.

- [ ] The average service time S does not depend on the load ρ.
- [ ] The average waiting time W does not depend on the load ρ.
- [ ] The average waiting time tends to 0 when ρ tends to 0.
- [ ] The average sojourn time R = W+S tends to infinity when ρ tends to 1.
- [ ] The average sojourn time R tends to 0 when ρ tends to 0.
- [ ] The average sojourn time R tends to 1/μ when ρ tends to 0.

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Question 4

1 point possible (graded)

We denote by U the mean server's utilization rate, by N the average number of clients in the system. W is the average waiting time, R the average sojourn time, and S the average service time.

Which formulas are satisfied by performance measures?

- [ ] $U=\rho$
- [ ] $U=1-\rho$
- [ ] $W=R+S$
- [ ] $N=\rho/(1-\rho)$

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