The day after a snow storm, cars arrive at Mel’s Auto-Wash at an average rate of 10 per hour according to a Poisson process. The automated car washing process takes exactly 5 minutes from start to finish.

a. What is the probability that an arriving car will find the car wash empty?

b. On average, how many cars are waiting for service?

c. On average, what is the total length of time (from arrival to departure) cars will spend at the car wash?