A recent CSUN graduate has opened up a cold beverage stand “Stop n Slurp” in Venice Beach. She takes life easy and does a lot of surfing. It sounds crazy, but she only opens her store for 4 hours a day. She observes that on average there are 120 customers visiting the stand every day. She also observes that on average a customer stays about 6 minutes at the stand.

a) How many customers on average are waiting at “Stop n Slurp”?

1. 0.5
2. 1.5
3. 3
4. 3.5
5. 6

She is thinking about running a marketing campaign to boost the number of customers per day. She expects that the number of customers will increase to 240 per day after the campaign. She wants to keep the line short at the stand and hopes to have only 2 people waiting on the average. Thus, she decides to hire an assistant.

b) What is the average time a customer will wait in the system after all these changes?

1. 0.4 min
2. 1 min
3. 1.6 min
4. 2 min
5. 4 min

The business got a lot better after the marketing campaign and she ended up having about 360 customers visiting the stand every day. So, she decided to change the processes. She is now taking the orders and her assistant is filling the orders. They observe that there are about 2 people at the ordering station of the stand and 1 person at the filling station.



c) How long does a customer stay at the stand?

1. 0.33 min
2. 0.667 min
3. 1.33 min
4. 2 min
5. 3.33 min

A recent UCLA graduate has opened up a competing cold beverage stand “Slurps-on-the-go”. The UCLA grad is not as efficient as the CSUN grad, so customers must stay an average of 15 minutes at “Slurps-on-the-go”, as opposed to 6 minutes at the “Stop n Slurp”. Suppose there is an average of 3 customers at “Slurps-on-the-go”. The number of customers requiring slurps each day remains at 120, as it was before the marketing campaign. But now the 120 is divided between the “Stop n Slurp” and “Slurps-on-the-go”.

d) By how much has business at the “Stop n Slurp” decreased?

1. 44 customers/day
2. 48 customers/day
3. 60 customers/day
4. 64 customers/day
5. 72 customers/day

e) What is now the average number of customers waiting at the “Stop n Slurp”?

1. 3
2. 1.8
3. 1.4
4. 1.2
5. 1