1. Suppose that you own a grocery store. Let denote the number of shoppers who visit your grocery store, and let (where ) denote the amount of money that the -th shopper spends during one week. Based on historical data, you know that each shopper spends, in average, $200 in your store during one week, and the average number of shoppers who visit your store during one week is 500. Let be the total sum of money spent by all the shoppers during one week. Assume that the number of shoppers and the amounts , , of money that they spend are independent. What is the average of the total amount of money spent during one week at your grocery store?

Since,

Then,

We know that the average customer spends $200,