

Section 10/21

1 Question 8.2

Suppose the numbers of M&Ms in the small 1.69-ounce bags of the candy are i.i.d. with mean 55 and SD 2. Let X be the total number of M&Ms in 100 such bags. Find or approximate $P(X > 5525)$.

2 Question 8.3

Suppose the weights of sticks of butter are i.i.d. with a mean of 115 grams and an SD of 5 grams. Let X be the total weight of 600 such sticks. Find x such that $P(X > x)$ is approximately 95%.

3 Previous Quiz Question

I roll a fair die, and win one dollar if I roll a multiple of 3 and lose a dollar otherwise. Suppose I roll the die 100 times. Let X be my net gain (winnings) from these 100 rolls (so if I lose at the end of 100 rolls, then X will be negative)

(a) Draw the approximate distribution of X , indicating $E(X)$ and $SD(X)$

(b) What is the approximate probability that I will come out with a positive net gain? Please show all your work. You may leave your answer as an expression in terms of $\Phi(z)$.