

Chapter 1

1. Rather complicated problem, but not bad if one is persistent. The probability in question is $P(L_2 = 1|A_1 = 0)$, where A_j is the number who alight at stop j . One must then evaluate $P(L_2 = 1 \text{ and } A_1 = 0)$ and $P(A_1 = 0)$, by enumerating the various probabilities.
2. Straightforward application of the mailing tubes.
3. Straightforward application of the mailing tubes.
4. No need for the mailing tubes here. To find $P(S = 12|T = 2)$, note that $T = 2$ means one of the pairs $(1,1), (2,2), \dots, (6,6)$. All are equally likely, so the conditional probability is $1/6$. The opposite probability is 1.