Problem D
Date Picker
Time limit: 1 second



A filled agenda.

The NWERC is coming up and your agenda is filling up with meetings. One of your teammates wants to plan a meeting, and asks for your input. However, instead of asking you for your exact agenda, you have to fill out two separate polls: one for indicating which days you are available, and one for the hours!

As a computer scientist, you plan your meetings only on whole hours and each meeting takes an integer number of hours. Therefore, your agenda can be modelled as a matrix of 7 rows (days), and 24 columns (hours). Each cell in this matrix is either '`.`' or '`x`', meaning that hour of that day you are either free or have a meeting, respectively.

You have to pick at least d days in the first poll and h hours in the second poll, and we assume the meeting will take place on any of your picked hour/day combinations with equal probability. What is the probability that you can attend the meeting if you fill in the polls optimally?

Input

The input consists of:

- 7 lines with 24 characters, each character being either '`.`' or '`x`', with '`.`' indicating the time slots you are available.
- One line with two integers d and h ($1 \leq d \leq 7$, $1 \leq h \leq 24$), the minimum number of days and hours you have to fill in.

Output

Output the probability that you are available at the chosen meeting time.

Your answer should have an absolute or relative error of at most 10^{-6}.

Sample Input 1	Sample Output 1
xxxxxx..xx..xxxxxxxxxxxx xxxxxxxxxxxxx....xxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx xxxxxx..xx..xxxxxxxxxxxx xxxxxxxxxxxxx...x..xxxxx xxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx 2 5	0.8

Sample Input 2	Sample Output 2
xxxxxxxxx.....x...xxxxxx xxxxxxxx..x...x...xxxxxx xxxxxxxx......x...x.xxxx xxxxxxxx...xxxxxxxxxxxx xxxxxxxx...xxxxxxxxxxxx xxxxxxxx...xxxxxxxx.xxxx ......xxxxxxxxxxxxxxxxx 3 8	0.958333333333333