

FXTZ II

Description

Cirno is playing a fighting game called “FXTZ” with Sanae.

Sanae is a ChuShou(master) of the game while Cirno is a ShaBao(noob). Since Cirno is a ShaBao, she just presses a random key on the keyboard for every 0.5 second, expecting to make a BiShaJi.

The battle begins. Having tried exactly 9 times, she finally makes a BiShaJi! She find herself summoned N iceballs!!! Then Sanae's HP decreases to 0 immediately....It should have been like that. But Cirno is too simple, always naïve. She doesn't know how to handle the iceballs, so she starts to press the keyboard at random, again.

Let's see how the iceball damages. Each iceball has a fixed energy: the first ball's energy is 2^0 , the second ball's energy is 2^1 , ... , and the N-th ball's energy is $2^{(N-1)}$. The damage caused by an iceball is equal to its energy. Cirno will shoot N times. Since Cirno is pressing the keyboard at random, each time Cirno will choose exactly one iceball with equal possibility to shoot out. Once shot out, the iceball can't be chosen again. And even worse, the target may be either her opponent or herself, with equal possibility(50%). What a big ShaBao she is. =_=

During shooting, once Cirno's HP is less than Sanae's, she will lose the game. Otherwise, she wins.

You may assume Sanae did nothing while Cirno's shooting(all damages are caused by Cirno's iceball), and their original HP are both 2^N (No one will die in the middle of the battle unless Cirno's HP is less than Sanae's).

Here comes the question: Can you calculate the possibility of Cirno's victory?

Input

The first line an integer C ($C \leq 30$), the number of test cases.

For each case, the only line contains one integer N ($0 < N \leq 500$), indicating the number of iceballs.

Output

For each case output a fraction, the possibility of Cirno's victory. The fraction must be reduced.

Sample Input

2
1
4

Sample Output

1/2
35/128