

# Kitten Zero

## Problem ID: a01p08kittenzero

Your kitten, Zero, has contracted the sniffles. Zero is a very sociable kitten so you suspect that it may have spread the disease. You wonder how many kittens are likely to become ill.

You check on [Wikipedia](#) and see that the common cold has a basic reproduction number  $R_0$  between 2 and 3.

You grab a napkin and do the math. Suppose that  $R_0$  is 2.

Then Kitten Zero infects two kittens, who each then infect two other kittens and so on and so forth. After 3 rounds of transmissions the total number of cases is:  $1 + 2 + (2 * 2) + (2 * 2 * 2) = 15$

But what if  $R_0$  is 2.5...or 2.7...or 2.67?

### Input

Input consists of one line with one floating point number  $R_0$ , the reproduction rate for the infection, where  $2 \leq R_0 \leq 3$ . It is guaranteed that the number is given with at most two digits after the decimal point.

### Output

Output consists of one line with one integer, the total amount of cases, rounded to the nearest kitten.

Sample Input 1	Sample Output 1
2	15
Sample Input 2	Sample Output 2
2.5	25
Sample Input 3	Sample Output 3
2.67	30