## **HackerRank**

# Day 4: Geometric Distribution II

#### Objective

In this challenge, we go further with geometric distributions. We recommend reviewing the Geometric Distribution tutorial before attempting this challenge.

#### Task

The probability that a machine produces a defective product is  $\frac{1}{3}$ . What is the probability that the  $1^{st}$  defect is found *during the first* 5 *inspections*?

#### **Input Format**

The first line contains the respective space-separated numerator and denominator for the probability of a defect, and the second line contains the inspection we want the probability of the first defect being discovered by:

```
1 3
5
```

If you do not wish to read this information from stdin, you can hard-code it into your program.

### **Output Format**

Print a single line denoting the answer, rounded to a scale of 3 decimal places (i.e., 1.234 format).