The binomial coefficient $C(m, n)$ is defined as

$$C(m, n) = \frac{m!}{(m-n)!\ n!}$$

Given four natural numbers p, q, r, and s, compute the the result of dividing $C(p, q)$ by $C(r, s)$.

Input

Input consists of a sequence of lines. Each line contains four non-negative integer numbers giving values for p, q, r, and s, respectively, separated by a single space. All the numbers will be smaller than 10,000 with $p \geq q$ and $r \geq s$.

Output

For each line of input, print a single line containing a real number with 5 digits of precision in the fraction, giving the number as described above. You may assume the result is not greater than 100,000,000.

Sample Input

```
10 5 14 9
93 45 84 59
145 95 143 92
995 487 996 488
2000 1000 1999 999
9998 4999 9996 4998
```

Sample Output

```
0.12587
505606.46055
1.28223
0.48996
2.00000
3.99960
```