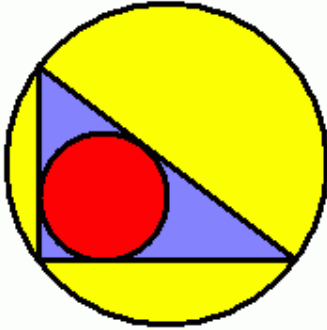





*“Roses are red, violets are blue...”*

Millionaire Mr Smith is well-known — not for his wealth, but for his odd sense of “art”... Mr Smith has got a circular garden. On the boundary he picks three points and gets a triangle. He then finds the largest circle in that triangular region. So he gets something like this:



 sunflowers  
 violets  
 roses

Mr Smith then plants yellow sunflowers, blue violets and red roses in the way shown in the figure. (Nice combination, eh? :-) Given the lengths of the three sides of the triangle, you are to find the areas of the regions with each kind of flowers respectively.

### Input

Each line of input contains three integers  $a$ ,  $b$ ,  $c$ , the lengths of the three sides of the triangular region, with  $0 < a \leq b \leq c \leq$

1000.

### Output

For each case, your program should output the areas of the regions with sunflowers, with violets and with roses respectively. Print your answers correct to 4 decimal places.

### Sample Input

3 4 5

### Sample Output

13.6350 2.8584 3.1416

