

Aim:

Write a program to find the **area** of a **triangle** using Heron's formula.

During execution, the program should print the following message on the console:

sides:

For example, if the user gives the following as **input** (input is positive floating decimal point numbers):

sides: 2.3 2.4 2.5

Then the program should **print** the result round off upto 2 decimal places as:

area: 2.49

Instruction: Your input and output layout must match with the sample test cases (**values as well as text strings**).

The area of a triangle is given by $\text{Area} = \sqrt{p(p-a)(p-b)(p-c)}$, where p is half of the perimeter, or $(a+b+c)/2$. Let a,b,c be the lengths of the sides of the given triangle.

Hint: Use `sqrt` function defined in `math.h` header file

Source Code:

Program313.c

```
#include<stdio.h>
#include<math.h>
int main()
{
    float a,b,c,A,S;
    printf("sides: ");
    scanf("%f%f%f",&a,&b,&c);
    S=(a+b+c)/2;
    A=sqrt(S*(S-a)*(S-b)*(S-c));
    printf("area: %.2f\n",A);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
sides: 2.3 2.4 2.5
area: 2.49

Test Case - 2
User Output
sides: 2.6 2.7 2.8

area: 3.15