// import the scanner class from the java util package

import java.util.Scanner;

public class Triangle {

// declare and implement the isValid method

public static boolean isValid (double side1, double side2,double side3) {

// check if all two sides is greater than the third, if true return true if not return false

if ( ((side1+side2) > side3) &&( (side1+side3) > side2) && ((side2+side3) > side1) )

return true;

else

return false;

}

// declare and implement the area method based on the formula in exercise 2.19

public static double area (double side1, double side2, double side3) {

double p = (side1+side2+side3)/2.0;

double result = Math.sqrt(p\*(p-side1)\*(p-side2)\*(p-side3));

return result;

}

public static void main(String[] args) {

//Prompt the user to enter 3 numbers

System.out.print("Enter three numbers for a valid triangle: ");

// create a scanner object

Scanner input = new Scanner(System.in);

// declare 3 variables of type double and them the 3 sides inputted by the user

double s1= input.nextDouble();

double s2= input.nextDouble();

double s3= input.nextDouble();

// declare a variable name check of type boolean and assign it the result

//or returned value from the isValid method

boolean check = isValid(s1,s2,s3);

// declare a variable result of type double and assign it the value returned by the area method

double result = area(s1,s2,s3);

// check if the number inputted are valid , if yes (true) then print the

//result on the screen if not then invalid number.

if (check == true)

System.out.printf("%s%3.3f\n","The area is : " , result);

else

System.out.println("You entered invalid numbers for a valid triangle. Try again!");

}

}