#include<iostream>

#include<cmath>

using namespace std;

//define the gaussian function

double gaussian(double x,double mean,double stddev){

    return exp(-pow(x-mean,2)/(2\*pow(stddev,2)))/(stddev \* sqrt(2\*M\_PI));

}

int main(){

    double x,mean,stddev;

    //input mean and standard deviation

    cout<<" Enter the mean: ";

    cin>>mean;

    cout<<"Enter the standard deviation: ";

    cin>>stddev;

    //input xfor which to calculate the gaussian value

    cout<<"Enter the x: ";

    cin>>x;

    //calculate and output the gaussian value

    double result=gaussian(x,mean,stddev);

    cout<<"The Gaussian value for x= "<<x<<"is:"<<result<<endl;

    return 0;

}