#include<stdio.h>

#include<conio.h>

#include<math.h>

#define f(x,y) (x\*x+y\*y);

int main()

{

int i,j,nx,ny;

float a,b,c,d,sum1,sum2,result,h,k,x,y;

sum2=0;

sum1=0;

printf("Enter the lower and upper limits of x \n");

scanf("%f %f", &c, &d);

printf("enter the lower and upper limit of integration of y\n");

scanf("%f",&a);

scanf("%f",&b);

printf("enter no of intervals of x\n");

scanf("%d",&nx);

printf("Enter the no. of intervals of y\n");

scanf("%d", &ny);

h=(d-c)/nx;

k=(b-a)/ny;

x=c;

y=a;

for(i=0;i<=ny;i++)

{

for(j=0;j<=nx;j++)

{

if(j==0||j==nx)

{

sum2=sum2+f(x,y);

}

else

{

sum2=sum2+2\*f(x,y);

}

x=x+h;

}

if(i==0||i==ny)

{

sum1=sum1+(h/2)\*sum2;

}

else

{

sum1=sum1+2\*(h/2)\*sum2;

}

sum2=0;

x=c;

y=y+k;

}

result = sum1\*(k/2);

printf("%f", result);

}

//output

//Enter the lower and upper limits of x

//0

//1

//enter the lower and upper limit of integration of y

//0

//2

//enter no of intervals of x

//2

//Enter the no. of intervals of y

//4

//3.500000