function definiteIntegral = trapezoidal(f, a, b, n)

% composite trapezoidal rule for approximating an integral

h=(b-a)/n;

sum=0;

% need only consider the n-1 remaining sub-intervals

for j=1:n-1

sum = sum + f(a + j\*h);

end

definiteIntegral = h/2\*(f(a)+2\*sum+f(b));

end

>> trapezoidal(f,-.5,.5,6)

ans =

0.0936

function definiteIntegral = simpson(f, a, b, n)

%composite simspons rule method for approximating an integral

h = (b-a)/n;

x0 = f(a)+f(b);

x1 = 0;

x2 = 0;

for i=1:n-1

if mod(i,2) == 0 %if i is even

x2 = x2 + f(a+i\*h);

else

x1 = x1 + f(a+i\*h);

end

end

definiteIntegral = h\*(x0+2\*x2+4\*x1)/3;

end

simpson(f,-.5,.5,12)

ans =

0.0880