

```

>> syms x y
>> f=x^2*exp(x)

f =

x^2*exp(x)

>> favg=1/(2-(-1))*int(f,x,-1,2)

favg =

(2*exp(2))/3 - (5*exp(-1))/3

>> double(favg)

ans =

4.3129

>> ezplot(f,[-1,2])
>> c=solve(f-favg,x)

c =

2*lambertw(0, ((2*exp(2))/3 - (5*exp(-1))/3)^(1/2)/2)
2*lambertw(0, -((2*exp(2))/3 - (5*exp(-1))/3)^(1/2)/2)

>> double(c)

ans =

1.1618
-0.5837 + 2.7186i

>> vpasolve(x^2*exp(x) == favg, x)

ans =

1.1617524664014138057123972309666

>>

>> g=@(t) t.^2.*exp(t)

g =

@(t)t.^2.*exp(t)

```

```
>> gavg=1/(2-(-1))*integral(g,-1,2)
```

```
gavg =
```

```
4.3129
```

```
>> f=4-x^2
```

```
f =
```

```
4 - x^2
```

```
>> g=x+2
```

```
g =
```

```
x + 2
```

```
>> ezplot(f,[-3,3])
```

```
>> hold on
```

```
>> ezplot(g,[-3,3])
```

```
>> hold off
```

```
>> M=int(f-g,x,-2,1)
```

```
M =
```

```
9/2
```

```
>> Mx=int(x*(f-g),x,-2,1)
```

```
Mx =
```

```
-9/4
```

```
>> My=int(f^2-g^2,x,-2,1)/2
```

```
My =
```

```
54/5
```

```
>> xbar=My/M
```

```
xbar =
```

```
12/5
```

```
>> ybar=Mx/M
```

ybar =

-1/2

>>