

In[4]:=

```
SetOptions[Plot3D(*Or whichever plot you desire*),  
  ColorFunction → "Rainbow"(*One of many options*)];  
SetOptions[ContourPlot(*Or whichever plot you desire*),  
  ColorFunction → "Rainbow"(*One of many options*)];  
SetOptions[RegionPlot(*Or whichever plot you desire*),  
  ColorFunction → "BlueGreenYellow"(*One of many options*)];
```

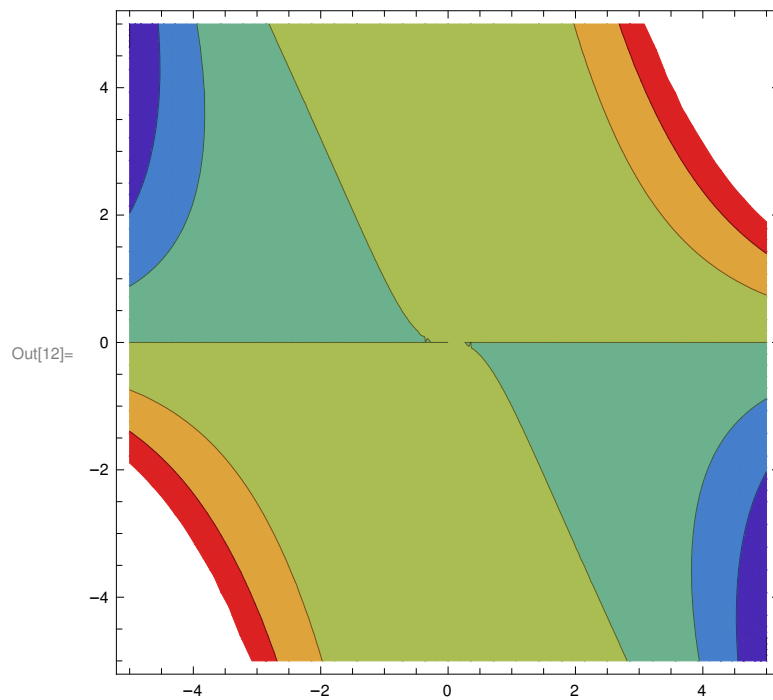
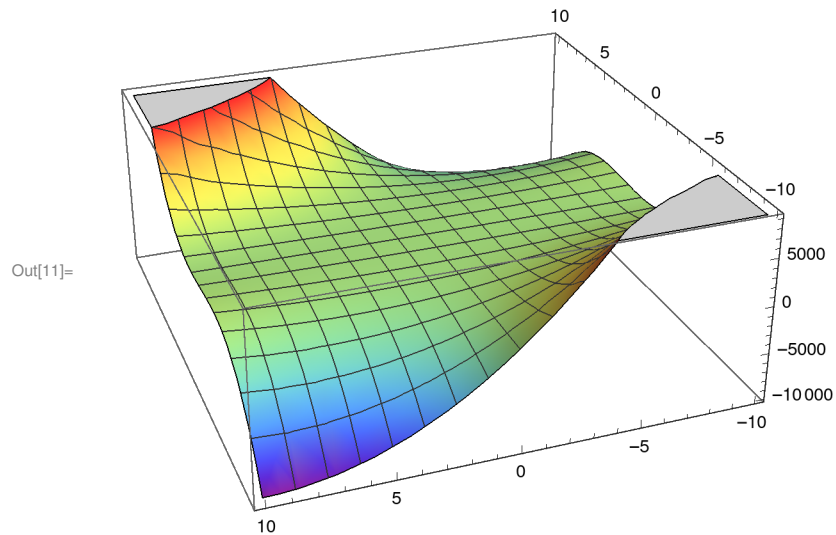
```
In[5 ]:= SetOptions[ContourPlot3D(*Or whichever plot you desire*),  
  ColorFunction → "BlueGreenYellow"(*One of many options*)];
```

(*1*)

□

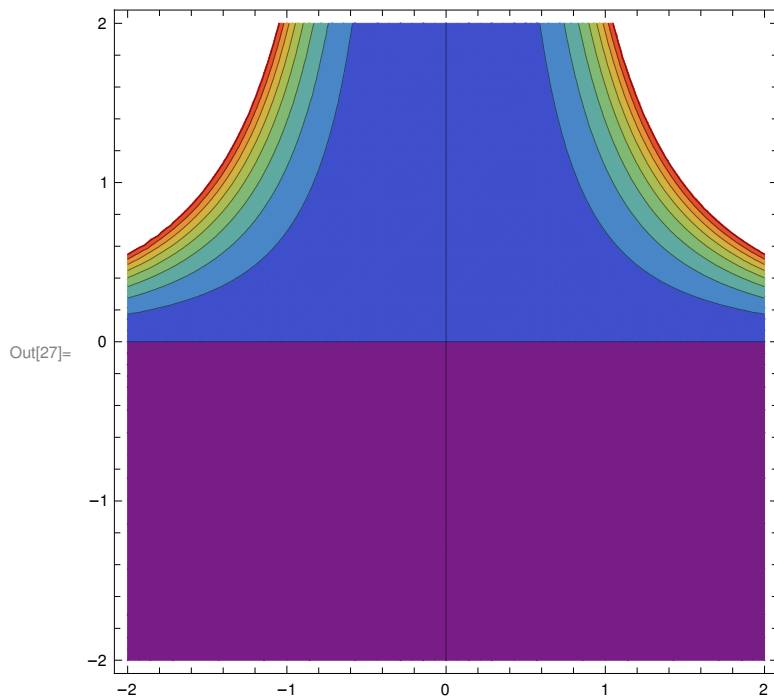
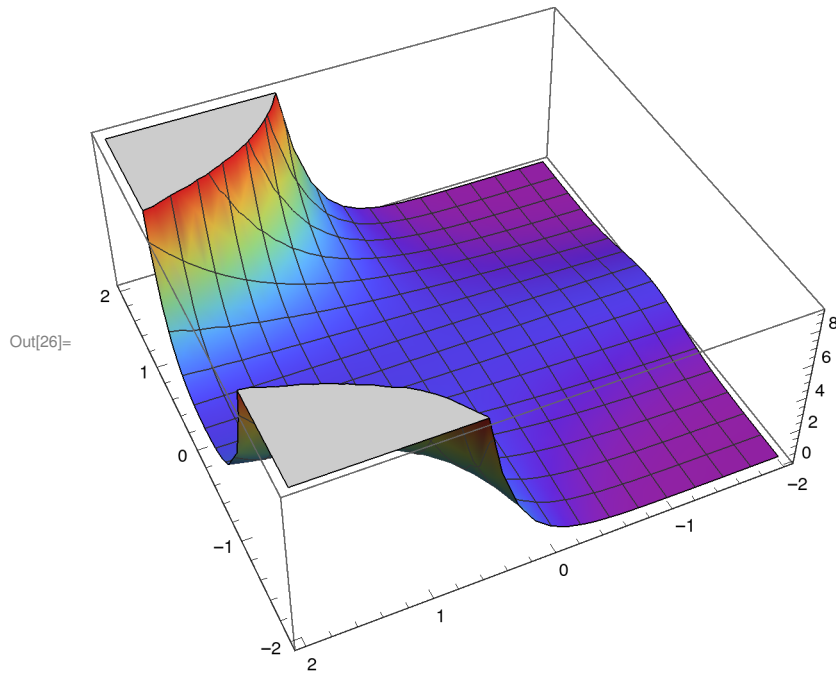
```
In[10]:= f = x^2 y^2 + y^2 + 2 x^3 y  
Plot3D[f, {x, -10, 10}, {y, -10, 10}]  
ContourPlot[f, {x, -5, 5}, {y, -5, 5}]
```

```
Out[10]= 2 x^3 y + y^2 + x^2 y^2
```



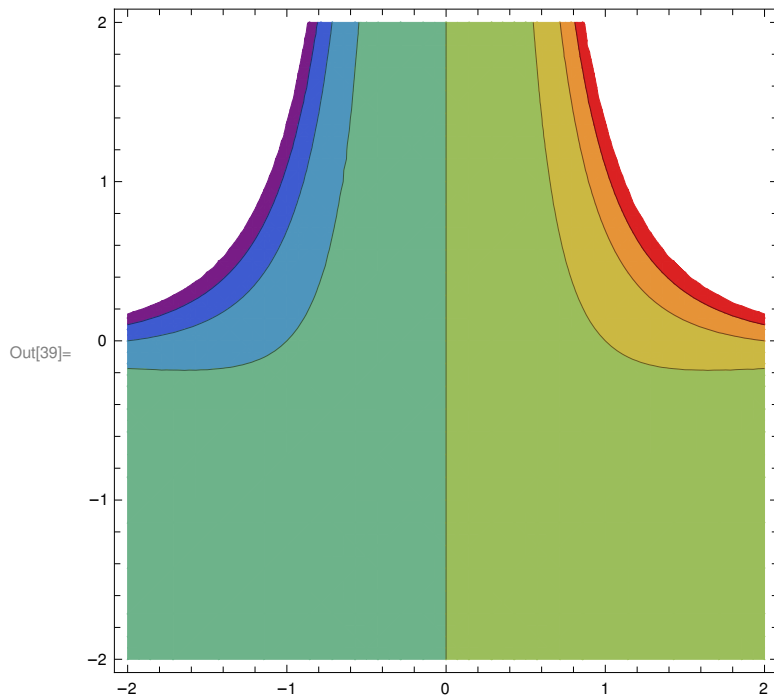
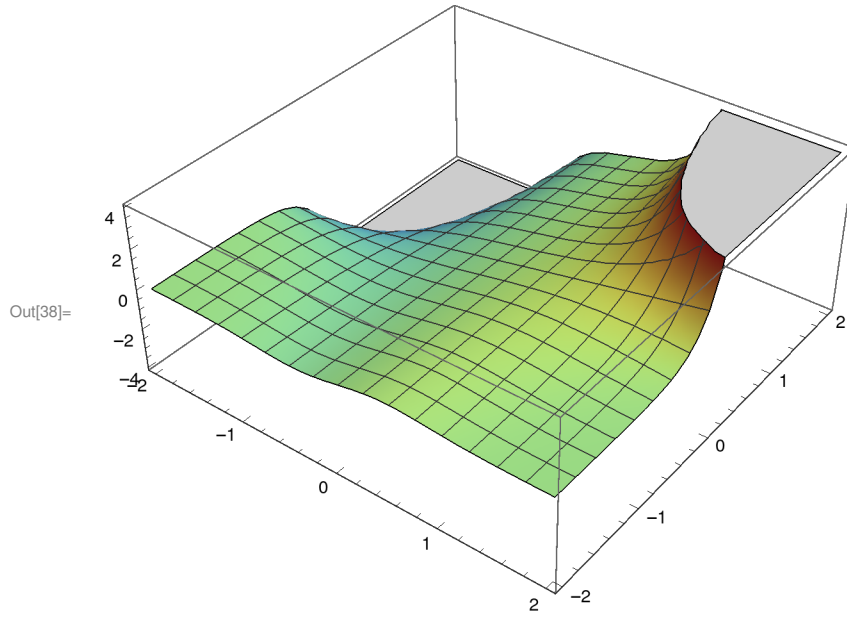
```
In[25]:= f = Exp[x^2 y]
Plot3D[f, {x, -2, 2}, {y, -2, 2}]
ContourPlot[f, {x, -2, 2}, {y, -2, 2}]
```

Out[25]= $e^{x^2 y}$



```
In[37]:= f = x * Exp[x ^ 2 y]  
Plot3D[f, {x, -2, 2}, {y, -2, 2}]  
ContourPlot[f, {x, -2, 2}, {y, -2, 2}]
```

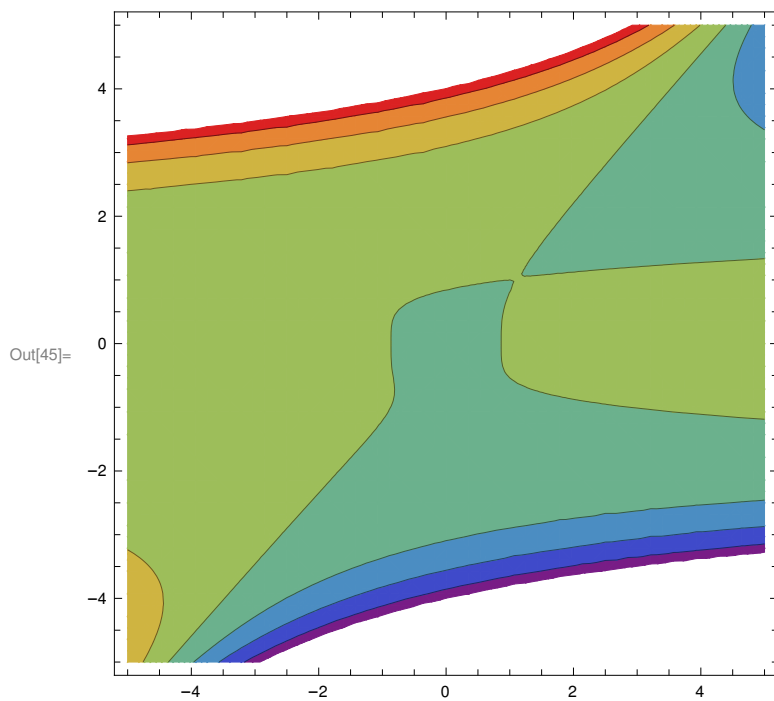
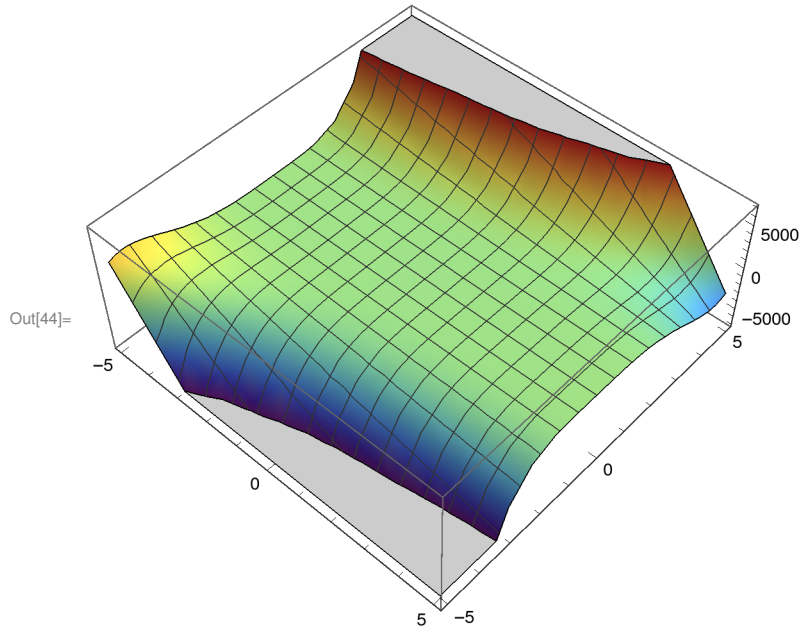
Out[37]= $e^{x^2 y} x$



(*2*)

```
In[43]:= f = 4 x^2 - 8 x y^4 + 7 y^5 - 3  
Plot3D[f, {x, -5, 5}, {y, -5, 5}]  
ContourPlot[f, {x, -5, 5}, {y, -5, 5}]
```

```
Out[43]= -3 + 4 x^2 - 8 x y^4 + 7 y^5
```



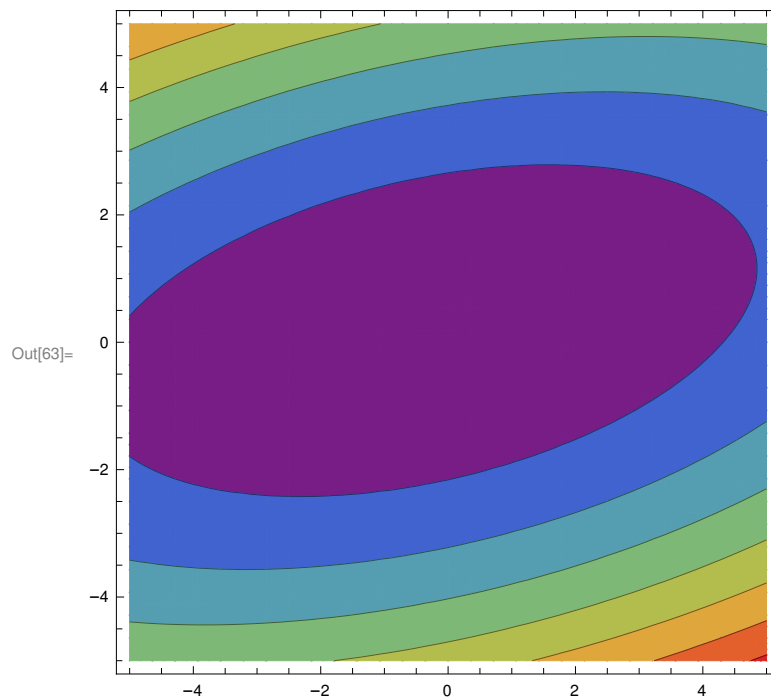
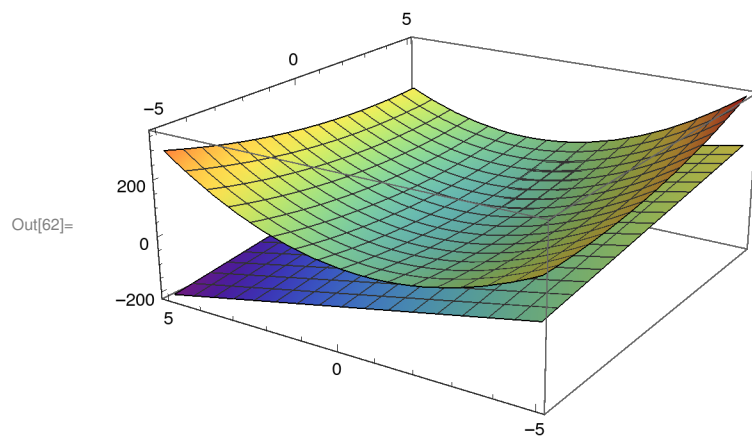
In[61]:= (*3*)

$$f = 2x^2 - 3xy + 8y^2 + 2x - 4y + 4$$

Plot3D[{f, 13x - 26y - 18}, {x, -5, 5}, {y, -5, 5}]

ContourPlot[f, {x, -5, 5}, {y, -5, 5}]

Out[61]= $4 + 2x + 2x^2 - 4y - 3xy + 8y^2$



In[91]:= (*3*)

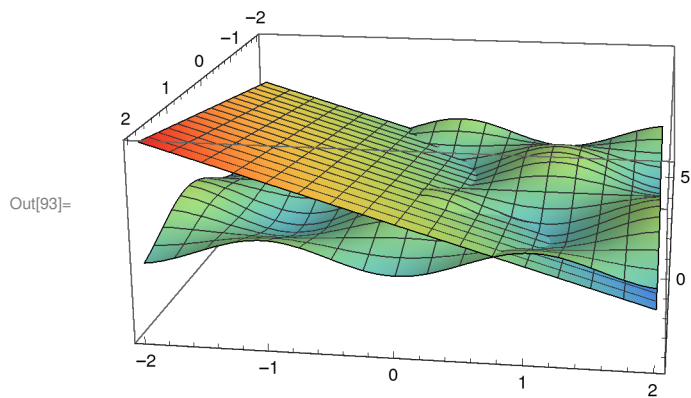
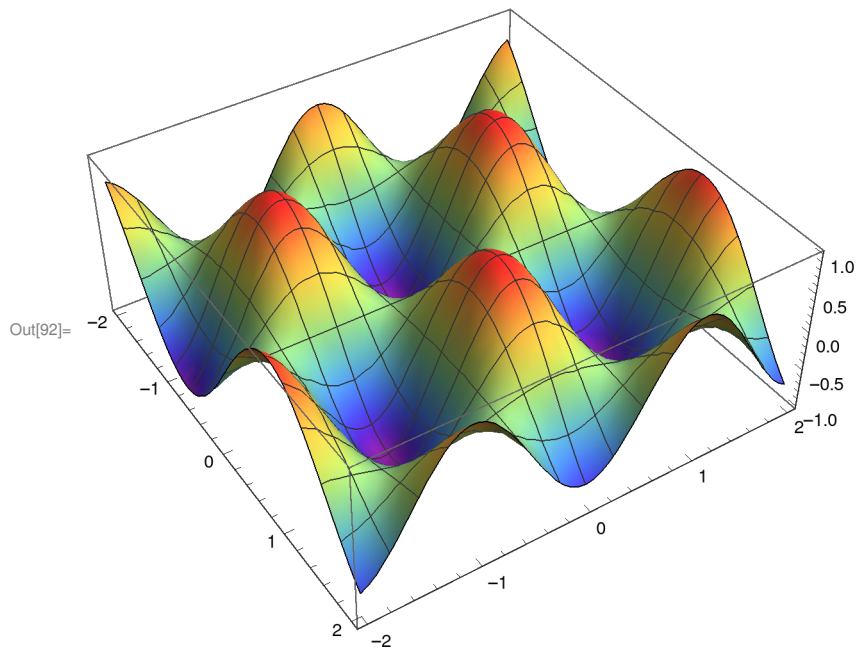
$$f = \sin[2x] \cos[3y]$$

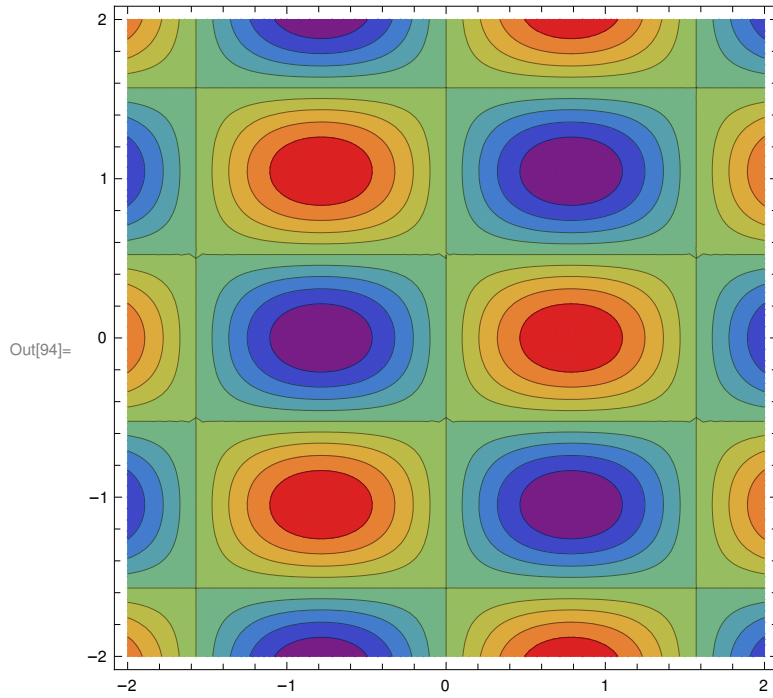
Plot3D[{f}, {x, -2, 2}, {y, -2, 2}]

Plot3D[{f, Sqrt[2] x / 2 - 3 Sqrt[6] y / 4 - Sqrt[6] / 4 - Pi / Sqrt[2] / 6 + 3 Pi * Sqrt[6] / 16},
{x, -2, 2}, {y, -2, 2}]

ContourPlot[f, {x, -2, 2}, {y, -2, 2}]

Out[91]= $\cos[3y] \sin[2x]$






```

In[104]:= f = (2 x + y) / (3 y ^ 2)
Plot3D[{f, 2 x / 27 + 5 y / 81 - 2 / 27}, {x, -5, 5}, {y, -5, 5}]
ContourPlot[f, {x, -5, 5}, {y, -5, 5}]

```

Out[104]=
$$\frac{2x + y}{3y^2}$$

