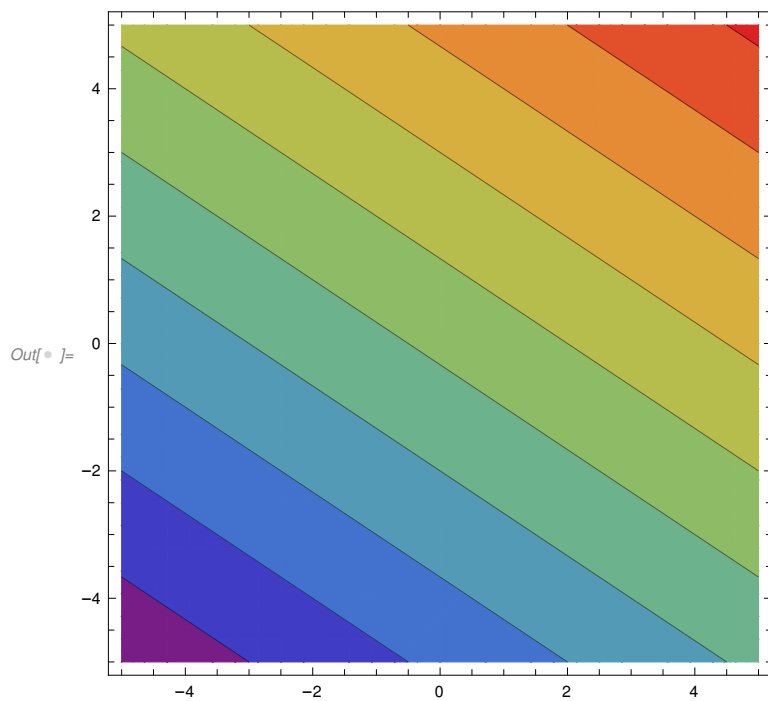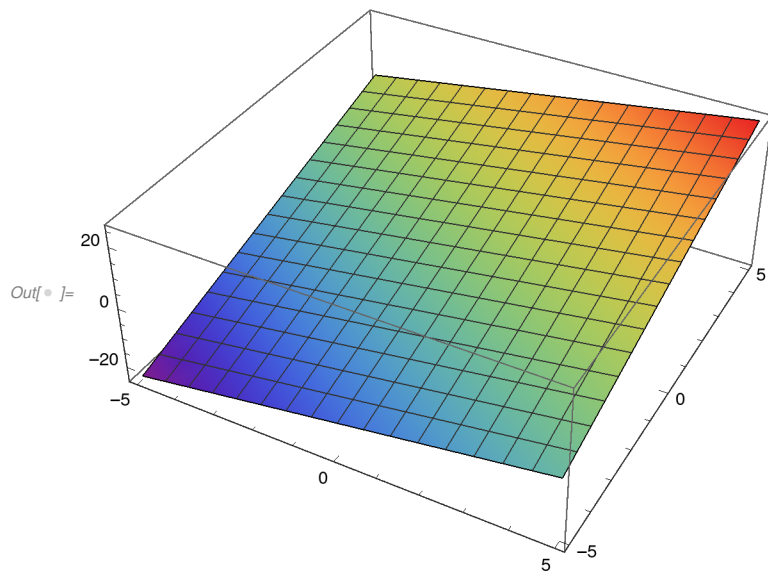```
SetOptions[Plot3D(*Or whichever plot you desire*),
  ColorFunction → "Rainbow"(*One of many options*)];
SetOptions[ContourPlot(*Or whichever plot you desire*),
  ColorFunction → "Rainbow"(*One of many options*)];
SetOptions[RegionPlot(*Or whichever plot you desire*),
  ColorFunction → "BlueGreenYellow"(*One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

```
SetOptions[ContourPlot3D(*Or whichever plot you desire*),
  ColorFunction → "BlueGreenYellow"(*One of many options*)];
```
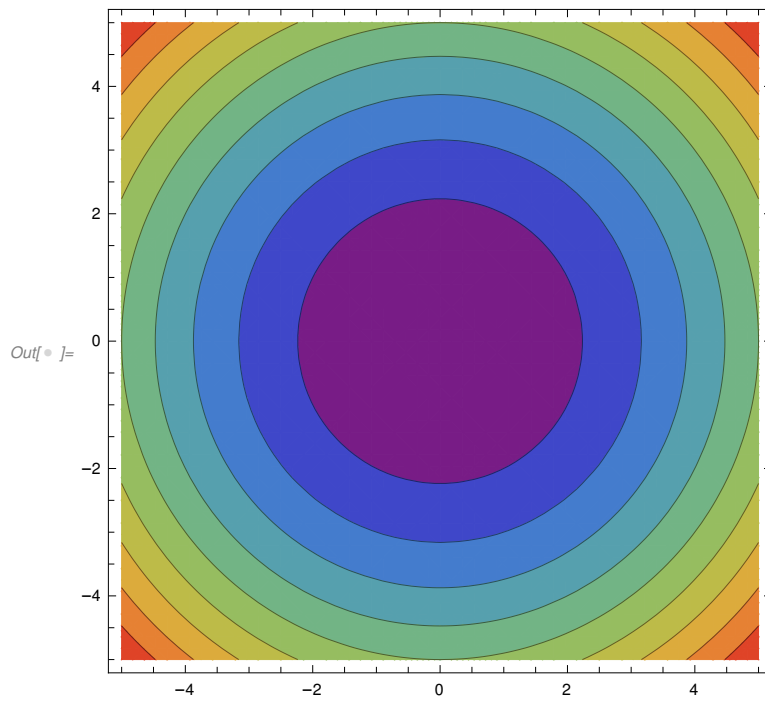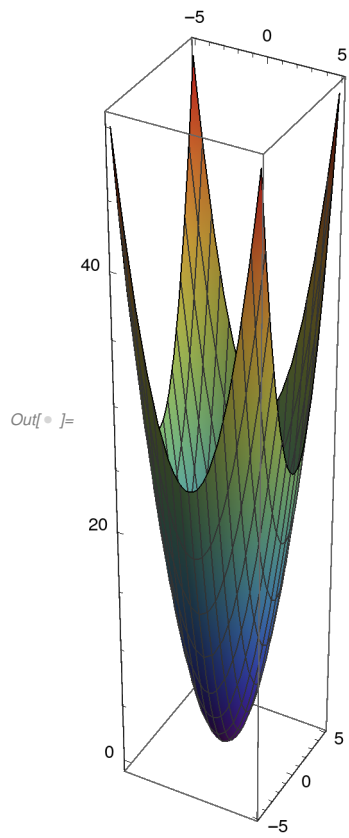
```
(*1*)
```

*In[ • ]:=* **f = 2 x + 3 y + 1**

**Plot3D[f , {x , -5, 5}, {y , -5, 5}]**

**ContourPlot[f , {x , -5, 5}, {y , -5, 5}]**
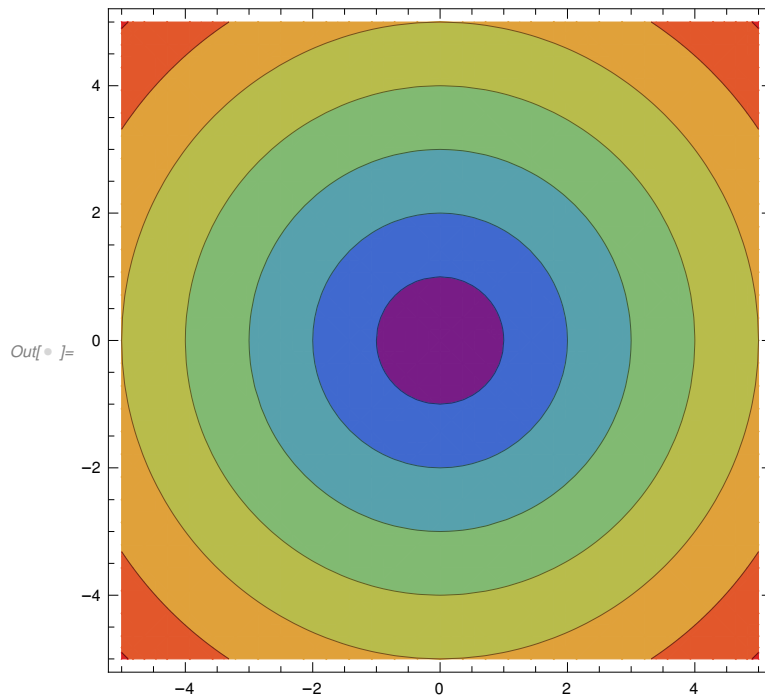
*Out[ • ]=* 1 + 2 x + 3 y

*Out[ • ]=*



*Out[ • ]=*

*In[ ● ]:=* **Plot3D[x^2+y^2, {x, -5, 5}, {y, -5, 5}, BoxRatios → Automatic]**
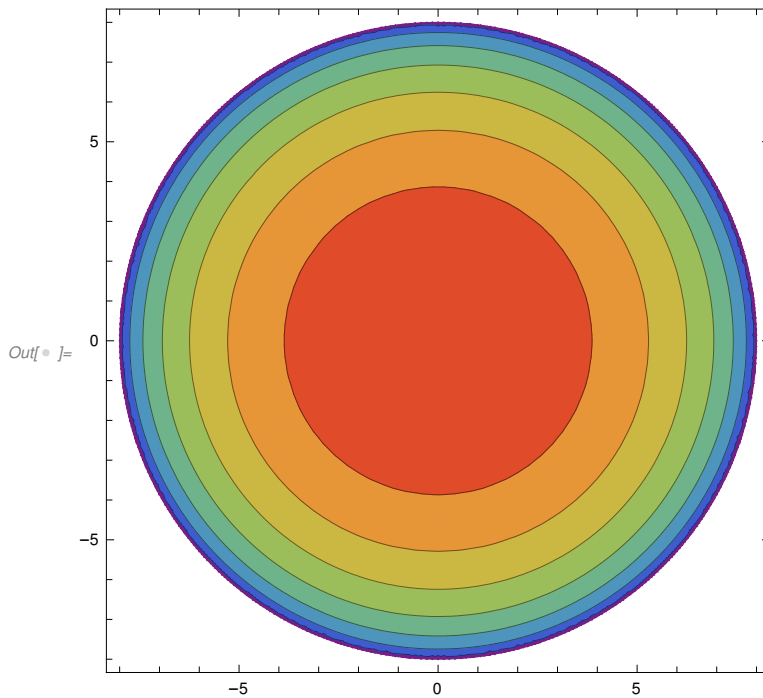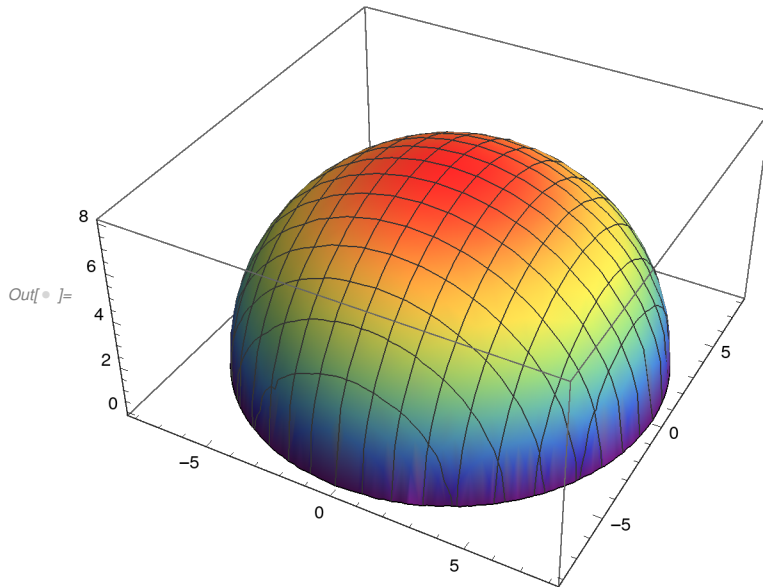**ContourPlot[x^2+y^2, {x, -5, 5}, {y, -5, 5}]**

*Out[ ● ]=*



*Out[ ● ]=*

In[•]:= **f = Sqrt[x^2 + y^2]**

**Plot3D[f , {x , -5, 5}, {y , -5, 5} , BoxRatios → Automatic]**

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

Out[•]= $\sqrt{x^2 + y^2}$

Out[•]=



Out[•]=

*In[ ● ]:=* **f = Sqrt[64 − x ^ 2 − y ^ 2]**

**Plot3D[f , {x , −8, 8}, {y , −8, 8} , BoxRatios → Automatic]**

**ContourPlot[f , {x , −8, 8}, {y , −8, 8}]**

*Out[ ● ]=* $\sqrt{64 - x^2 - y^2}$

*Out[ ● ]=*

*Out[ ● ]=*

In[ • ]:= `f = -x^2 + y^2`

`Plot3D[f, {x, -5, 5}, {y, -5, 5}]`

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

Out[ • ]= $-x^2 + y^2$

Out[ • ]=



Out[ • ]=



In[ • ]:= `f = x^2 - y`

`Plot3D[f, {x, -5, 5}, {y, -5, 5}, BoxRatios → Automatic]`

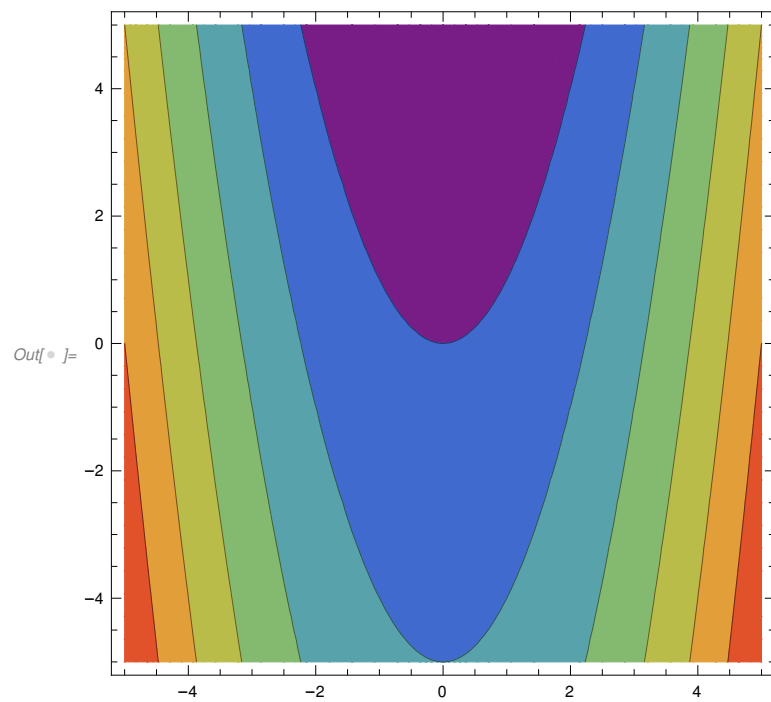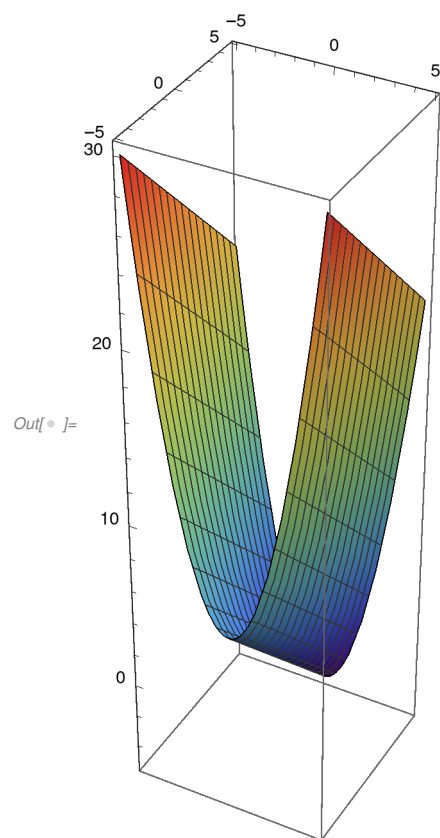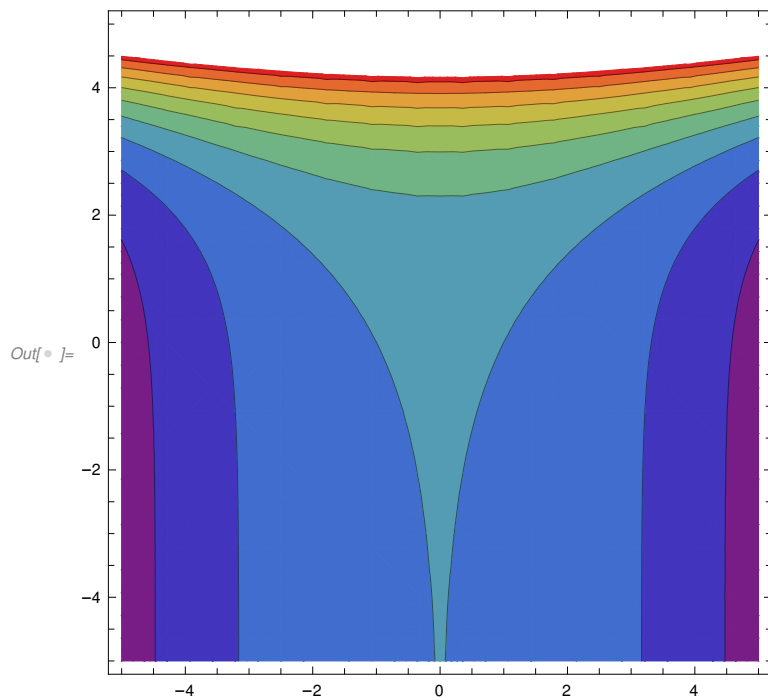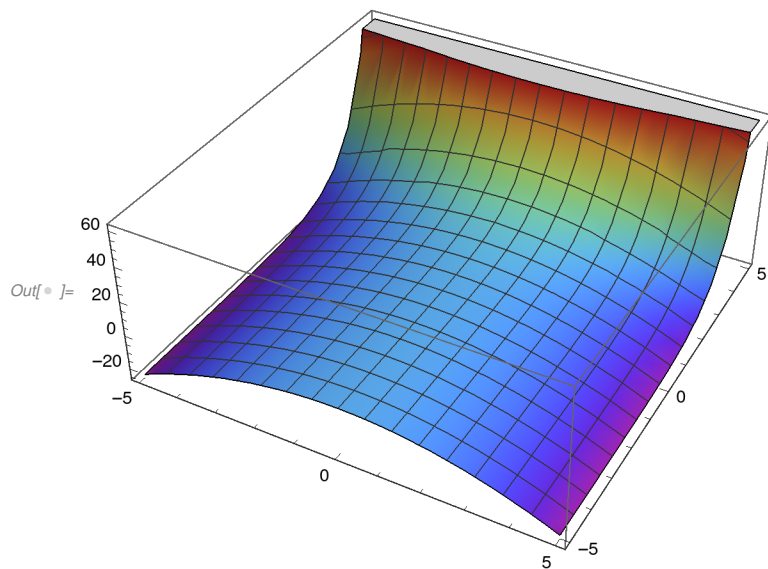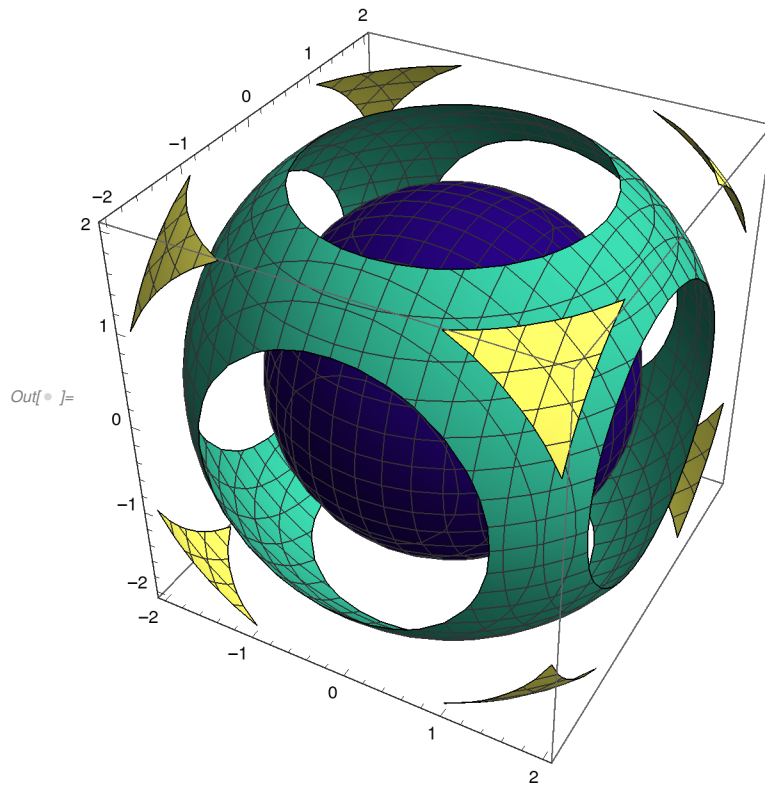`ContourPlot[f, {x, -5, 5}, {y, -5, 5}]`

*Out[ ● ]=* $x^2 - y$

*Out[ ● ]=*



*Out[ ● ]=*

In[●]:= **f = Exp[y] − x ^ 2**

**Plot3D[f , {x , −5, 5}, {y , −5, 5}]**
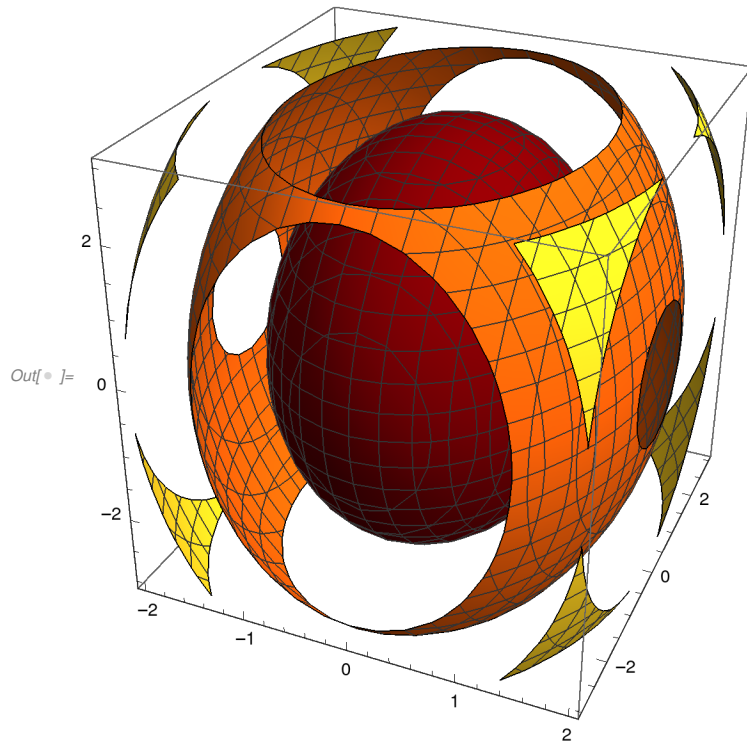
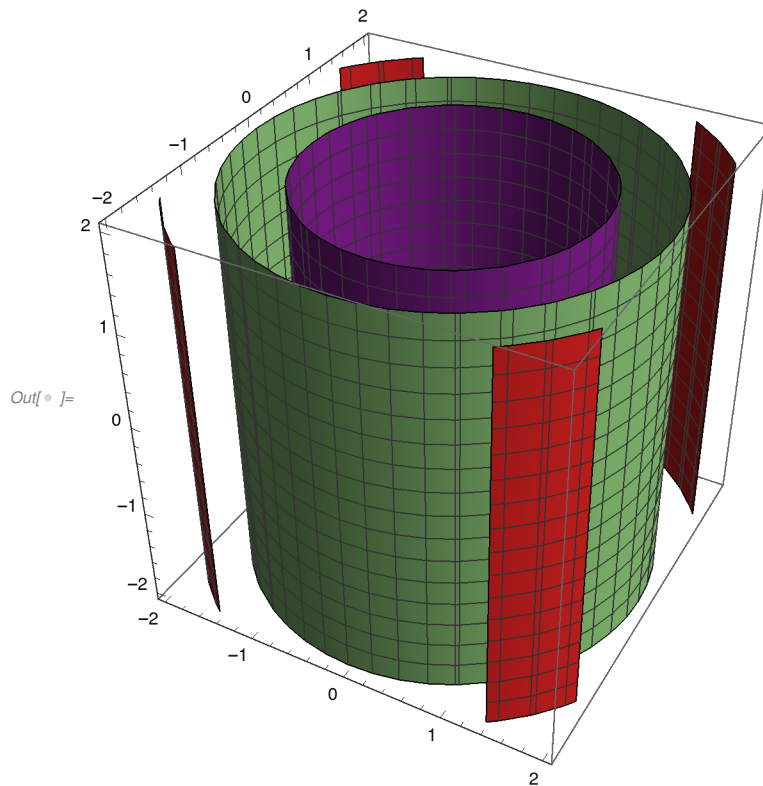**ContourPlot[f , {x , −5, 5}, {y , −5, 5}]**

Out[●]= $e^y − x^2$

*In[ ]:=* `ContourPlot3D[x^2 + y^2 + z^2, {x, -2, 2},`
`{y, -2, 2}, {z, -2, 2}, ColorFunction → "BlueGreenYellow"]`

*Out[ ]=*
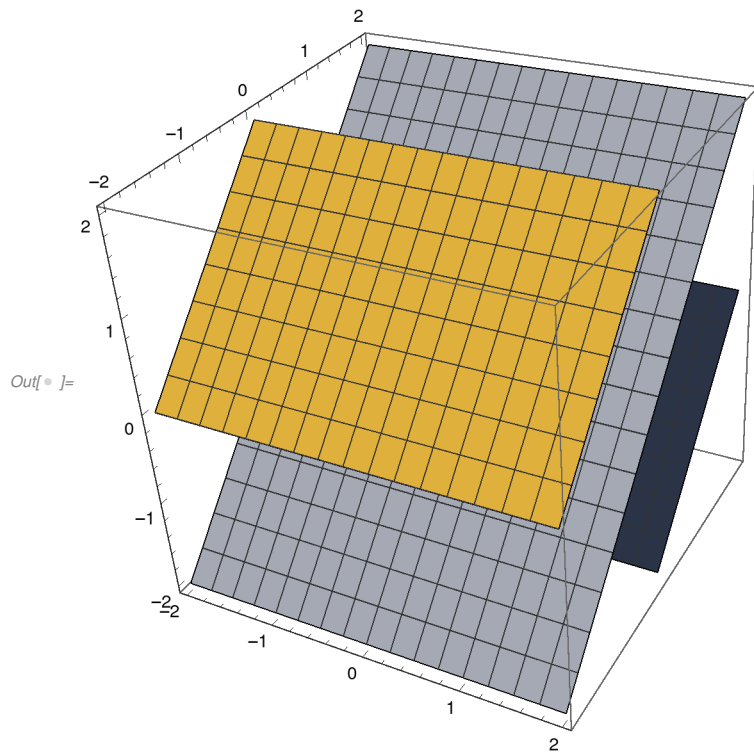
*In[ • ]:=* `ContourPlot3D[4 x^2 + y^2 + z^2, {x, -2, 2},`
`{y, -3, 3}, {z, -3, 3}, ColorFunction → "SolarColors"]`

*Out[ • ]=*



*In[ • ]:=* `ContourPlot3D[x^2 + y^2, {x, -2, 2}, {y, -2, 2}, {z, -2, 2}, ColorFunction → "Rainbow"]`
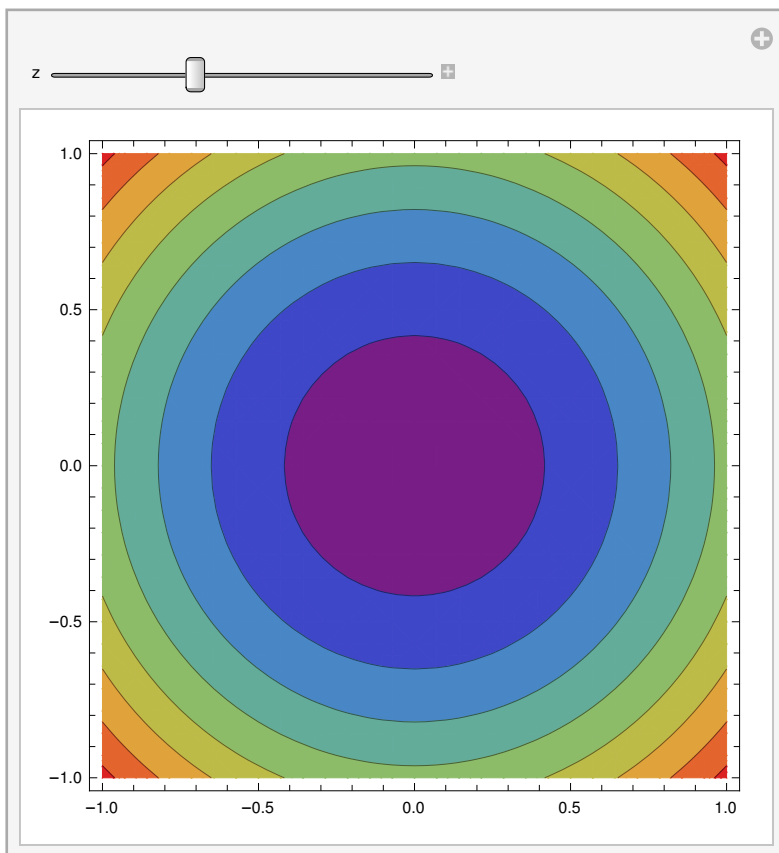
*Out[ • ]=*

*In[ ● ]:=* `ContourPlot3D[z - y, {x, -2, 2}, {y, -2, 2}, {z, -2, 2}, ColorFunction → "GrayYellowTones"]`
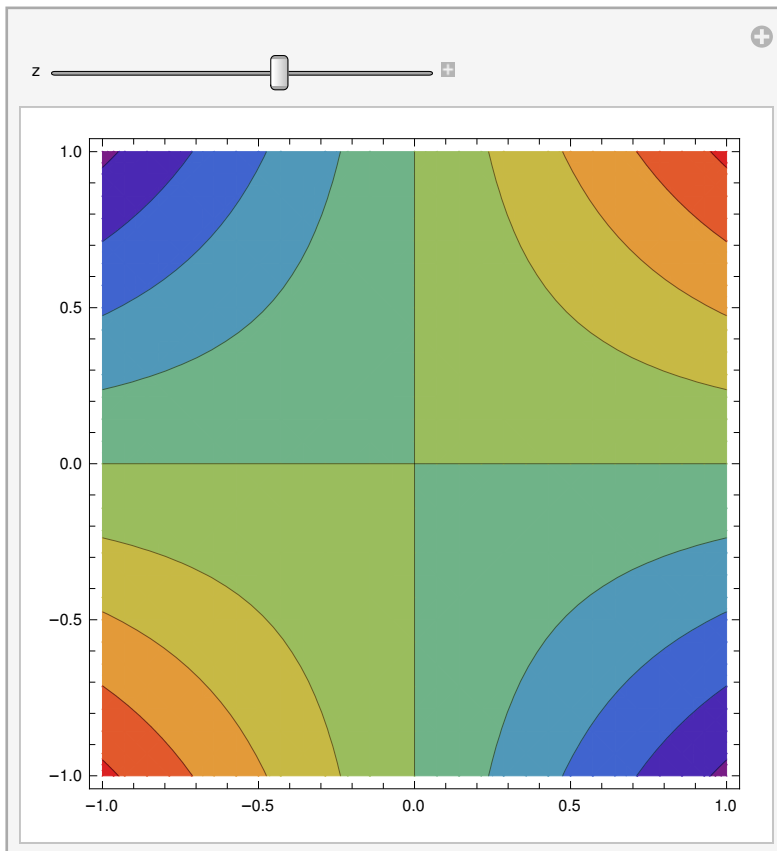
*Out[ ● ]=*

In[1]:= `Manipulate[`
`ContourPlot[x^2 + y^2 + z^2, {x, -1, 1}, {y, -1, 1}, ColorFunction → "Rainbow"], {z, -1, 1}]`

Out[1]=

*In[ ]:=* `Manipulate[`
    `ContourPlot[x * y * z, {x, -1, 1}, {y, -1, 1}, ColorFunction → "Rainbow"], {z, -1, 1}]`

*Out[ ]=*

```
In[•]:= valueInterval = Through[
        {MinValue, MaxValue}[{x^2 + y^2 + z^2, And @@ Thread[-1 ≤ {x, y, z} ≤ 1]}, {x, y, z}]];

    Outer[Function[{z, y, x},
        If[x > 0 && y > 0 && z > 0, 0, 4 Mod[Rescale[x^2 + y^2 + z^2, valueInterval], 0.25]]],
      Reverse@♯, Reverse@♯, ♯] &@Range[-1, 1, .02] //
    Image3D[♯, ColorFunction → "BlueGreenYellowOpacity", Boxed → True, Axes → True,
      AxesOrigin → {1, 1, 1} / .02, AxesLabel → (ToBoxes[Style[♯, 20]] & /@ {x, y, z})] &
```

Out[•]=