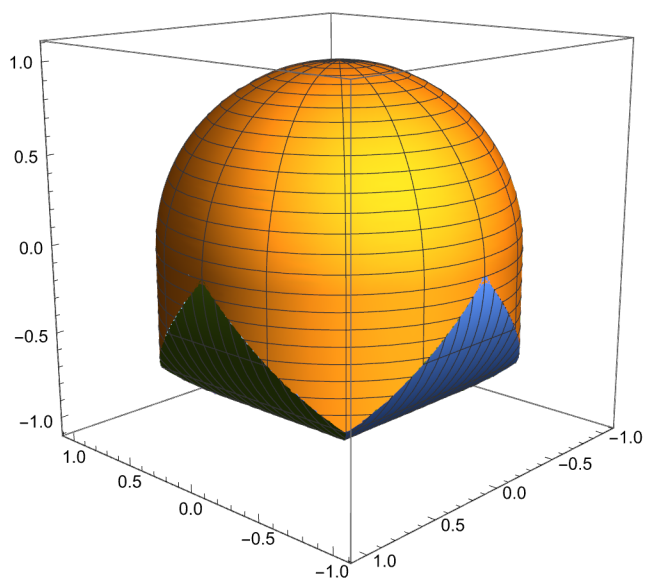


构造立体几何

```
In[ ]:= Show[ParametricPlot3D[{Cos[u], Sin[u], v}, {Cos[u], v, Sin[u]}, {v, Cos[u], Sin[u]}],  
  [显示] [绘制三维参数图] [余弦] [正弦] [余弦] [正弦] [余弦] [正弦]  
    {u, 0, 2 π}, {v, -1, 1}, PlotPoints → 50,  
      [绘图点]  
    RegionFunction → ({x, y, z} ↦ x2 + y2 ≤ 1 && x2 + z2 ≤ 1 && y2 + z2 ≤ 1 && z ≤ 0)],  
  [区域函数]  
  ParametricPlot3D[{Cos[u] Cos[v], Sin[u] Cos[v], Sin[v]}, {u, 0, 2 π}, {v, 0, π/2}],  
  [绘制三维参数图] [余弦] [余弦] [正弦] [余弦] [正弦]  
  PlotRange → All]  
  [绘制范围] [全部]
```

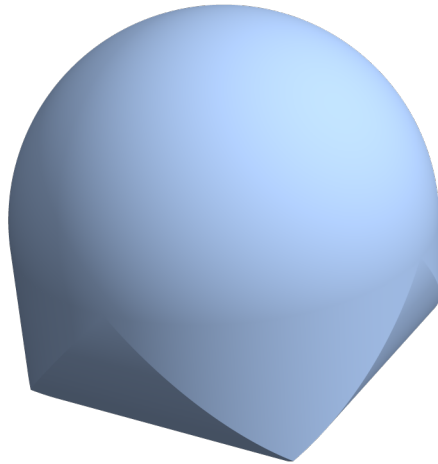
Out[]:=



```

In[ ]:= m = CSGRegion["Intersection", {Cylinder[{{0, 0, -1}, {0, 0, 0}}],
    | CSG区域 | 交集 | 圆柱体
    Rotate[Cylinder[], Pi / 2, {0, 1, 0}], Rotate[Cylinder[], Pi / 2, {1, 0, 0}]]];
    | 旋转 | 圆柱体 | 圆周率 | 旋转 | 圆柱体 | 圆周率
CSGRegion["Union", {m, Ball[]}];
| CSG区域 | 并集 | 实心球
Out[ ]:=

```

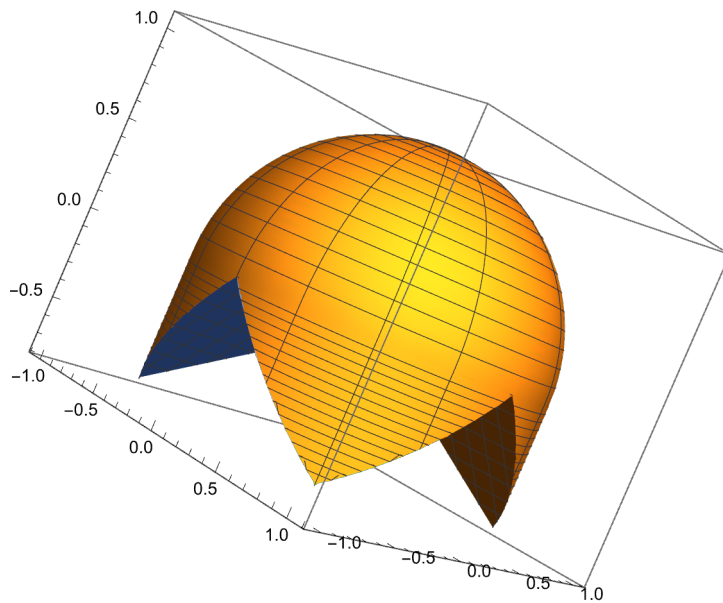


```

In[ ]:= Show[ParametricPlot3D[{Cos[u], Sin[u], v}, {u, 0, 2 π},
  显示 绘制三维参数图 余弦 正弦
    {v, -1, 0}, RegionFunction → ({x, y, z} ↦ Abs[x] + z ≥ 0 && Abs[y] + z ≥ 0)],
  区域函数 绝对值 绝对值
  ParametricPlot3D[{Cos[u] Cos[v], Sin[u] Cos[v], Sin[v]}, {u, 0, 2 π}, {v, 0, π/2}],
  绘制三维参数图 余弦 余弦 正弦 余弦 正弦
  ParametricPlot3D[{u, v, -Abs[v]}, {v, u, -Abs[v]}],
  绘制三维参数图 绝对值 绝对值
    {u, -1, 1}, {v, -1, 1}, RegionFunction →
    区域函数
    ({x, y, z} ↦ x2 + y2 ≤ 1 && Abs[x] + z ≥ 0 && Abs[y] + z ≥ 0)], PlotRange → All]
  绝对值 绝对值 绘制范围 全部

```

Out[]:=

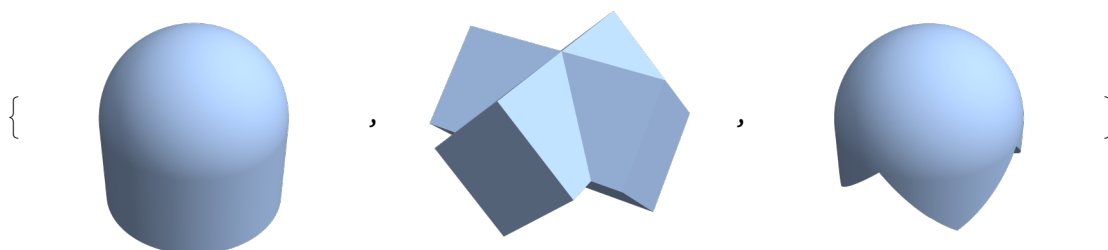


```

In[ ]:= c = Rotate[Cuboid[{-2, -1, -2}, {2, 1, 0}], Pi / 4, {1, 0, 0}, {0, 0, -1}];
           |旋转      |长方体      |圆周率
down = CSGRegion["Union", {c, Rotate[c, Pi / 2, {0, 0, 1}]}];
           |CSG区域  |并集      |旋转      |圆周率
up = CSGRegion["Union", {Ball[], Cylinder[{0, 0, -1}, {0, 0, 0}]}];
           |CSG区域  |并集      |实心球   |圆柱体
compose = CSGRegion["Difference", {up, Translate[down, {0, 0, -(\sqrt{2} - 1)}]}];
           |CSG区域  |平移
{up, down, compose}

```

Out[]:=



```

In[ ]:= x = CSGRegion["Union", {c, Rotate[c, Pi / 2, {1, 0, 0}], Rotate[c, Pi / 2, {0, 1, 0}]} /.
           |CSG区域  |并集      |旋转      |圆周率      |旋转      |圆周率
           c -> Cylinder[{0, 0, -2}, {0, 0, 2}]];
           |圆柱体
{x, CSGRegion["Difference", {Ball[{0, 0, 0}, 2], x}]}
           |CSG区域  |实心球

```

Out[]:=

