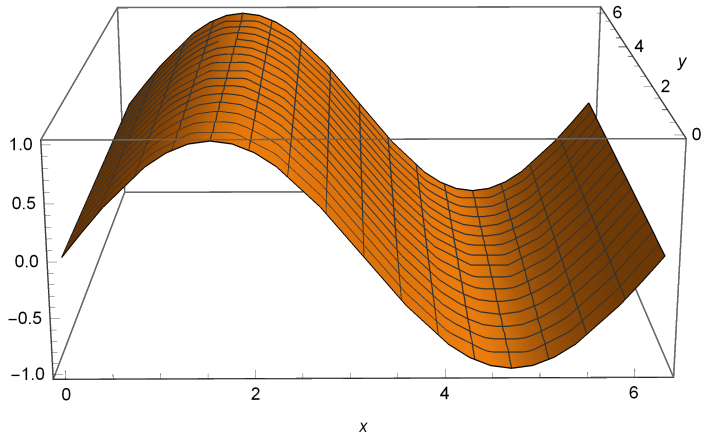
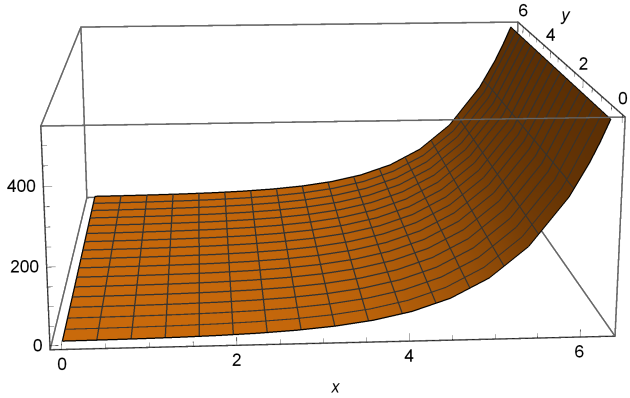
In[1]:=
```
f[x_, y_] := Sin[x]; (* ℝ² → ℝ *)
Plot3D[f[x, y], {x, 0, 2 Pi}, {y, 0, 2 Pi}, AxesLabel → Automatic]
```

Out[2]=



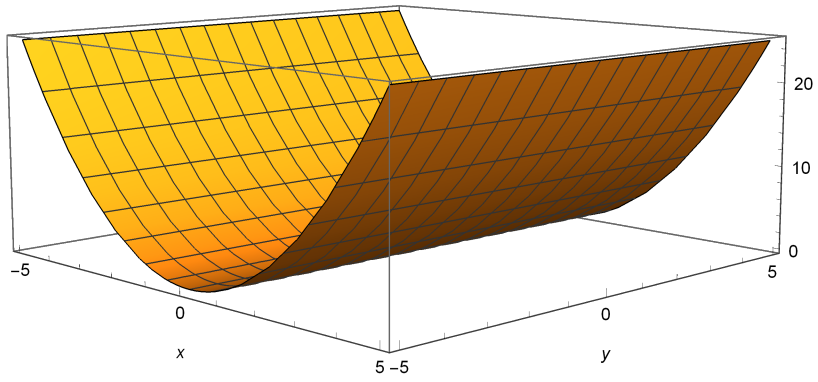
In[3]:=
```
f[x_, y_] := Exp[x]; (* ℝ² → ℝ *)
Plot3D[f[x, y], {x, 0, 2 Pi}, {y, 0, 2 Pi}, AxesLabel → Automatic]
```

Out[4]=



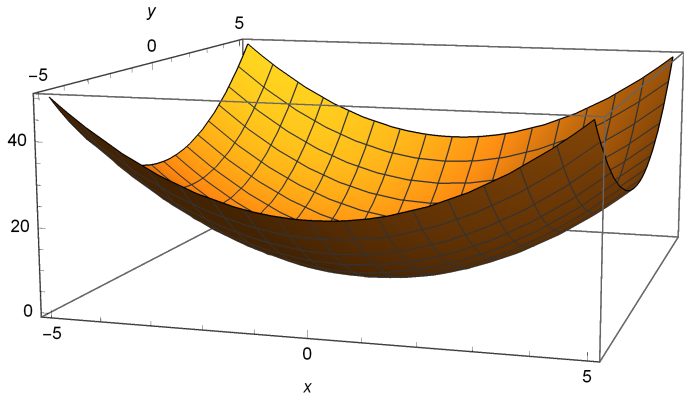
In[5]:=
```
f[x_, y_] := x²; (* ℝ² → ℝ *)
Plot3D[f[x, y], {x, -5, 5}, {y, -5, 5}, AxesLabel → Automatic]
```

Out[6]=



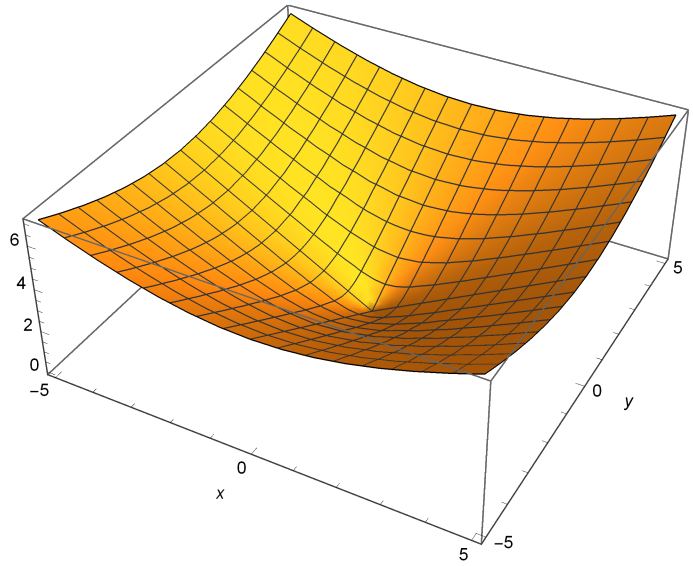
In[7]:=
```
f[x_, y_] := x^2 + y^2;  (* ℝ^2 → ℝ *)
Plot3D[f[x, y], {x, -5, 5}, {y, -5, 5}, AxesLabel → Automatic]
```

Out[8]=



In[9]:=
```
f[x_, y_] := √(x^2 + y^2);  (* ℝ^2 → ℝ *)
Plot3D[f[x, y], {x, -5, 5}, {y, -5, 5}, AxesLabel → Automatic]
```

Out[10]=



In[11]:=
```
f[x_, y_] := Sin[√(x^2 + y^2)];  (* ℝ^2 → ℝ *)
Plot3D[f[x, y], {x, -12, 12}, {y, -12, 12}, AxesLabel → Automatic]
```

Out[11]=