

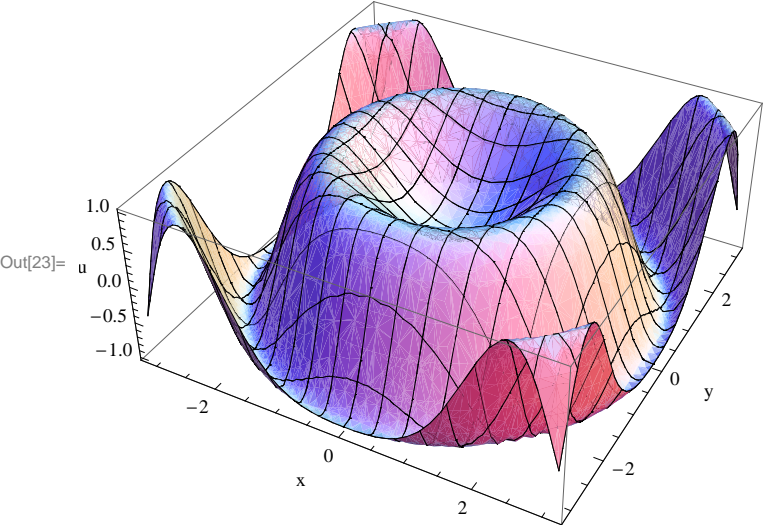
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In[20]:= diffeq = y D[u[x, y], x] - x D[u[x, y], y] == 0;
sol = DSolve[diffeq, u[x, y], {x, y}]
u2[x_, y_] = u[x, y] /. sol[[1]] /. C[1][t_] -> Sin[t]
Plot3D[u2[x, y], {x, -Pi, Pi}, {y, -Pi, Pi}, PlotPoints -> 20, AxesLabel -> {"x", "y", "u"}]
diffeq1 = D[v[x, y], x] + 2 D[v[x, y], y] == 1;
sol1 = DSolve[diffeq1, v[x, y], {x, y}]
v2[x_, y_] = v[x, y] /. sol1[[1]] /. C[1][t_] -> t^2
Plot3D[v2[x, y], {x, -5, 5}, {y, -5, 5}, PlotPoints -> 20, AxesLabel -> {"x", "y", "v"}]

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Out[21]= {{u[x, y] -> C[1] [1/2 (x^2 + y^2)]}}
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Out[22]= Sin[1/2 (x^2 + y^2)]
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Out[25]= {{v[x, y] -> x + C[1] [-2 x + y]}}
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Out[26]= x + (-2 x + y)^2
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