Mathematics is life!

In[ ]:=

```
4 * 8
```

Out[ ]=

```
32
```

In[ ]:=

```
3 + 6 * 5
```

Out[ ]=

```
33
```

In[ ]:=

```
274 / 3
```

Out[ ]=

$$\frac{274}{3}$$

In[ ]:=

```
274 / 3.
```

Out[ ]=

```
91.3333
```

In[ ]:=

```
(3.24 * 6.791 - 14.7) / (4.5 + 82 / 3)
```

Out[ ]=

```
0.229409
```

In[ ]:=

```
[(3.24 * 6.791) - 14.7] / (4.5 + 82 / 3)
```

The only grouping symbol is parenthesis!

In[ ]:=

```
2.6^2.99
```

Out[ ]=

```
17.4089
```

In[ ]:=

```
3 × 5
```

Out[ ]=

```
15
```

To indicate multiplication a blank space between 3 and 5 is needed.

In[ ]:=

```
Log[12.7]
```

Out[ ]=

```
2.5416
```

In[∘]:=
```
E^2.5
```
Out[∘]=
```
12.1825
```
In[∘]:=
```
Log[E, 12.7]
```
Out[∘]=
```
2.5416
```
In[∘]:=
```
Log[10, 72.8]
```
Out[∘]=
```
1.86213
```
In[∘]:=
```
Sqrt[64.0]
```
Out[∘]=
```
8.
```
In[∘]:=
```
Abs[-2.5]
```
Out[∘]=
```
2.5
```
In[∘]:=
```
I * I
```
Out[∘]=
```
-1
```
In[∘]:=
```
E
```
Out[∘]=
```
ⅇ
```
In[∘]:=
```
N[E]
```
Out[∘]=
```
2.71828
```
In[∘]:=
```
Pi
```
Out[∘]=
```
π
```
In[∘]:=
```
N[Pi]
```
Out[∘]=
```
3.14159
```

In[ ]:=

```
Pi // N
```

Out[ ]=

```
3.14159
```

In[ ]:=

```
NumberForm[N[E], 10]
```

Out[ ]//NumberForm=

```
2.718281828
```

In[ ]:=

```
NumberForm[N[Pi], 16]
```

Out[ ]//NumberForm=

```
3.141592653589793
```

In[ ]:=

```
N[Pi, 17]
```

Out[ ]=

```
3.1415926535897932
```

In[ ]:=

```
N[Pi, 1000]
```

Out[ ]=

```
3.14159265358979323846264338327950288419716939937510582097494459230781640628620899862803482
534211706798214808651328230664709384460955058223172535940812848111745028410270193852110555
964462294895493038196442881097566593344612847564823378678316527120190914564856692346034861
045432664821339360726024914127372458700660631558817488152092096282925409171536436789259036
001133053054882046652138414695194151160943305727036575959195309218611738193261179310511854
807446237996274956735188575272489122793818301194912983367336244065664308602139494639522473
719070217986094370277053921717629317675238467481846766940513200056812714526356082778577134
275778960917363717872146844090122495343014654958537105079227968925892354201995611212902196
086403441815981362977477130996051870721134999999837297804995105973173281609631859502445945
534690830264252230825334468503526193118817101000313783875288658753320838142061717766914730
359825349042875546873115956286388235378759375195778185778053217122680661300192787661119590
9216420199
```

If a palette is not open, you can get it by clicking consecutively on the buttons Palettes, and Basic Math Assistant.

In[ ]:=

$3^{5.2}$

Out[ ]=

```
302.713
```

In[ ]:=

$\sqrt{37.4}$

Out[ ]=

```
6.11555
```

In[ ]:=

$\sqrt{3.1^{2.7}}$

Out[ ]=

4.60615

In[ ]:=

$\frac{125.3}{72}$

Out[ ]=

1.74028

In[ ]:=

$N\left[\sqrt{\frac{5}{9}}\right]$

Out[ ]=

0.745356

In[ ]:=

```
N[E^2]
```

Out[ ]=

7.38906

In[ ]:=

```
Log[%]
```

Out[ ]=

2.

This was ln 2.

In[ ]:=

```
Simplify[3 x^2 - x - 9 + x^2 + 7 x + 5]
```

Out[ ]=

$-4 + 6 x + 4 x^2$

In[ ]:=

```
Cancel[(x^2 - 2 x - 3) / (x^2 - 9)]
```

Out[ ]=

$\frac{1 + x}{3 + x}$

In[ ]:=

```
Factor[x^4 - 1]
```

Out[ ]=

$(-1 + x)\ (1 + x)\ \left(1 + x^2\right)$

In[ ]:=

```
Factor[a s + b a s]
```

Out[ ]=

a (1 + b) s

In[ ]:=
```
Expand[(x + 2)^3]
```
Out[ ]=
$8 + 12\,x + 6\,x^2 + x^3$

In[ ]:=
```
Apart[x / ((x - 2) (x^2 + 3))]
```
Out[ ]=
$$\frac{2}{7\,(-2 + x)} + \frac{3 - 2\,x}{7\,(3 + x^2)}$$

In[ ]:=
```
Together[x / (x + 5) - 1 / (x - 4)]
```
Out[ ]=
$$\frac{-5 - 5\,x + x^2}{(-4 + x)\,(5 + x)}$$

In[ ]:=
```
x = 5; y = 12; z = a + b;
```
In[ ]:=
```
x y^2
```
Out[ ]=
720

To indicate multiplication a blank space between **x** and **y^2** is needed. Or, one can use the multiplication sign ***** .

In[ ]:=
```
Expand[z^x]
```
Out[ ]=
$a^5 + 5\,a^4\,b + 10\,a^3\,b^2 + 10\,a^2\,b^3 + 5\,a\,b^4 + b^5$

In[ ]:=
```
Clear[x, y, z]
```
In[ ]:=
```
Solve[3 x - 8 == 4]
```
Out[ ]=
$\{\{x \to 4\}\}$

In[ ]:=
```
Solve[a x - 2 == 3 a, x]
```
Out[ ]=
$$\left\{\left\{x \to \frac{2 + 3\,a}{a}\right\}\right\}$$

In[ ]:=
```
Solve[{x - 2 y == 4, x - 1 == 5 y}, {x, y}]
```
Out[ ]=
$\{\{x \to 6,\ y \to 1\}\}$

In[∘]:=
```
NSolve[2 x - 3 == x^2 - 3 x - 4]
```
Out[∘]=
```
{{x → -0.192582}, {x → 5.19258}}
```
In[∘]:=
```
NSolve[{x^2 + y^2 == 16, y == x^2 - 2 x + 2}, {x, y}]
```
Out[∘]=
```
{{x → 2.46607, y → 3.14936}, {x → 1.12368 - 2.35752 ⅈ, y → -4.54261 - 0.583168 ⅈ},
 {x → 1.12368 + 2.35752 ⅈ, y → -4.54261 + 0.583168 ⅈ}, {x → -0.713436, y → 3.93586}}
```
In[∘]:=
```
FindRoot[Cos[x] == x^3, {x, 1}]
```
Out[∘]=
```
{x → 0.865474}
```
In[∘]:=
```
f[x_] := x^2 - 5; g[x_] := Log[x] / x
```
In[∘]:=
```
f[3]
```
Out[∘]=
```
4
```
In[∘]:=
```
g[f[x]]
```
Out[∘]=

$$\frac{\text{Log}[-5 + x^2]}{-5 + x^2}$$

In[∘]:=
```
g[f[3]]
```
Out[∘]=

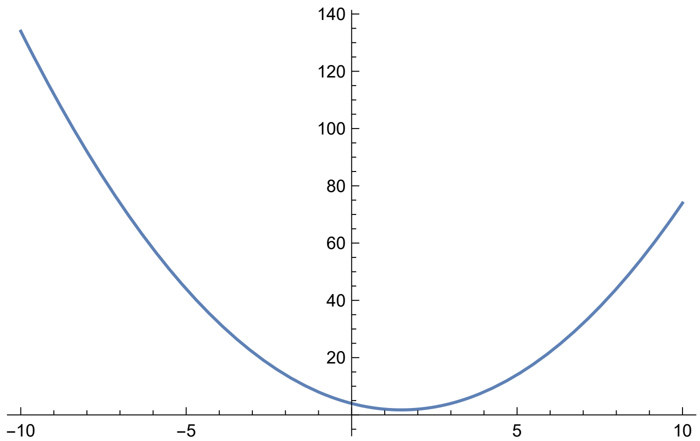
$$\frac{\text{Log}[4]}{4}$$

In[∘]:=
```
N[g[f[3]]]
```
Out[∘]=
```
0.346574
```
In[∘]:=
```
Solve[f[x] == 4]
```
Out[∘]=
```
{{x → -3}, {x → 3}}
```

In[ ]:=

```
Plot[x^2 - 3 x + 4, {x, -10, 10}]
```

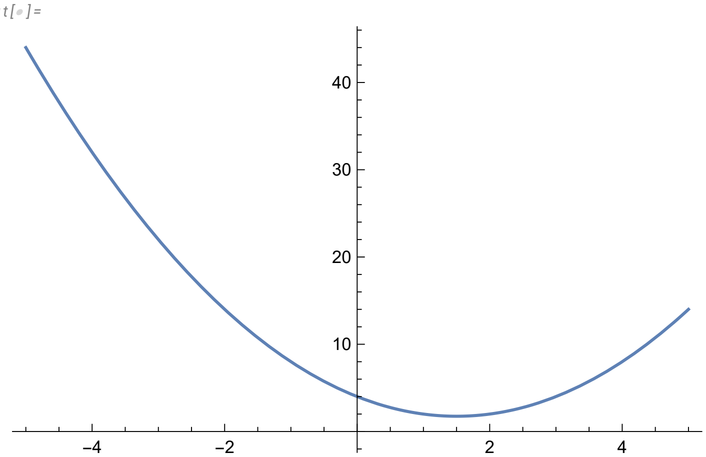
Out[ ]=



In[ ]:=

```
Plot[x^2 - 3 x + 4, {x, -5, 5}]
```

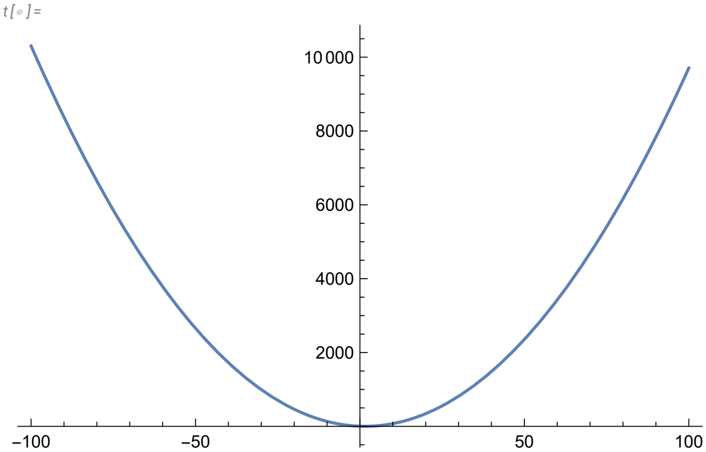
Out[ ]=



In[ ]:=

```
Plot[x^2 - 3 x + 4, {x, -100, 100}]
```

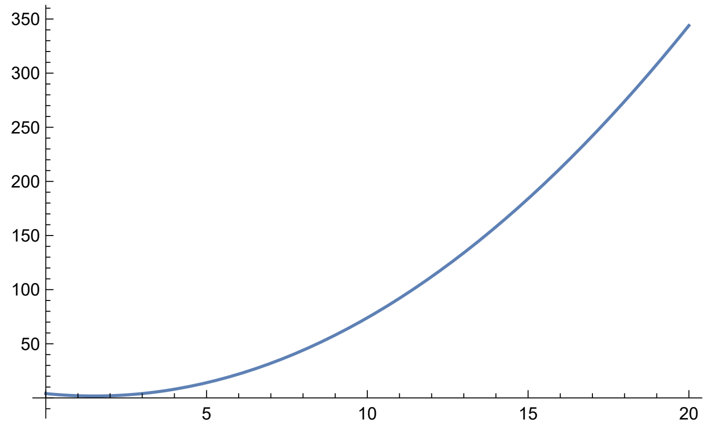
Out[ ]=



In[ ]:=

```
Plot[x^2 - 3 x + 4, {x, 0, 20}]
```

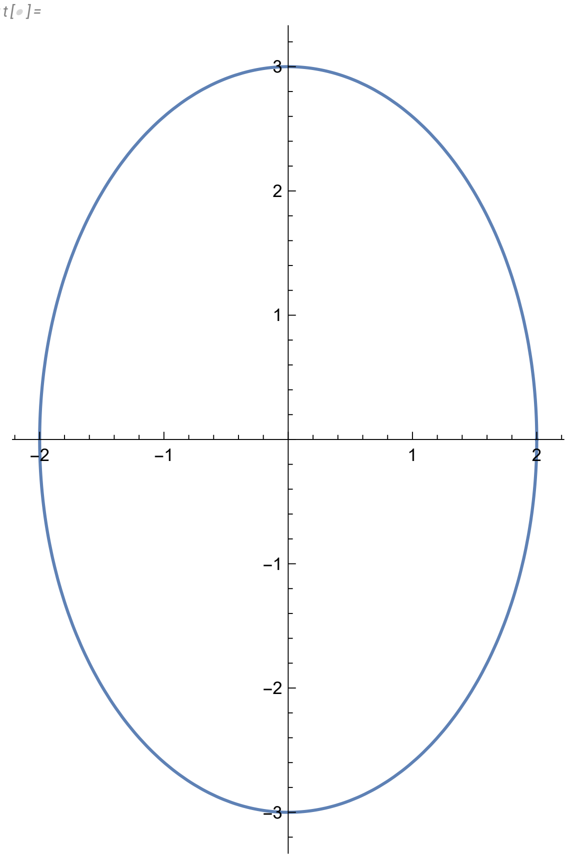
Out[ ]=



In[ ]:=

```
ParametricPlot[{2 Cos[t], 3 Sin[t]}, {t, 0, 2 Pi}]
```

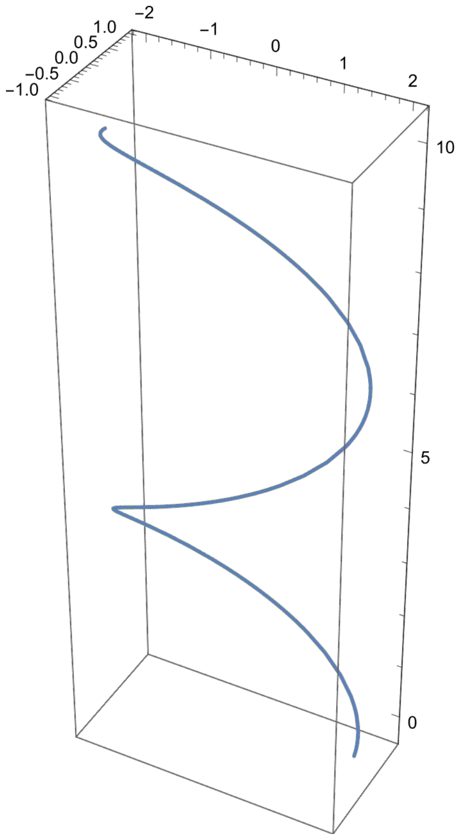
Out[ ]=



In[∘]:=

```
ParametricPlot3D[{2 Cos[t], Sin[t], t}, {t, 0, 10}]
```

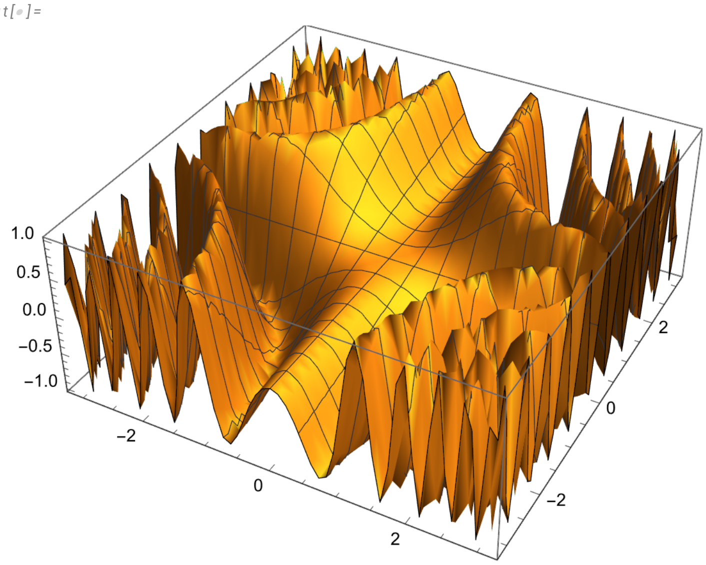
Out[∘]=



In[∘]:=

```
Plot3D[Sin[x^2 y], {x, -Pi, Pi}, {y, -Pi, Pi}]
```

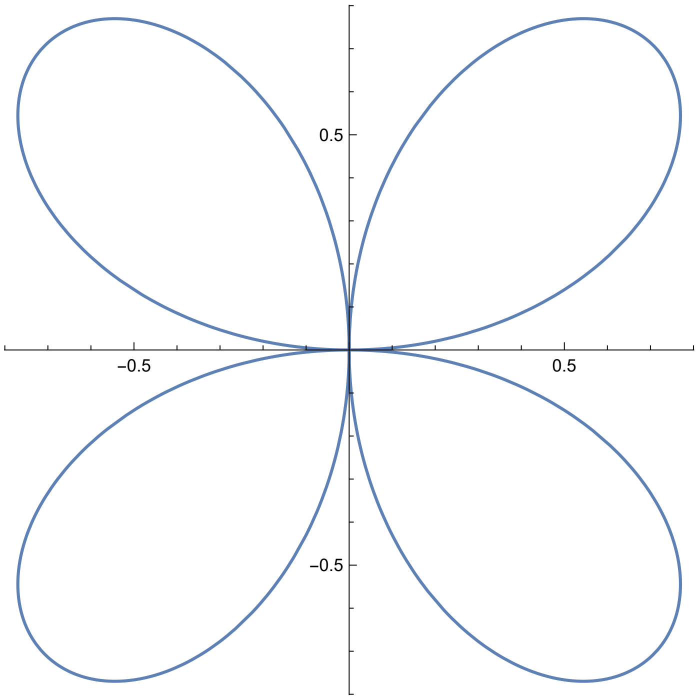
Out[∘]=



In[ ]:=

```
PolarPlot[Sin[2 t], {t, 0, 2 Pi}]
```

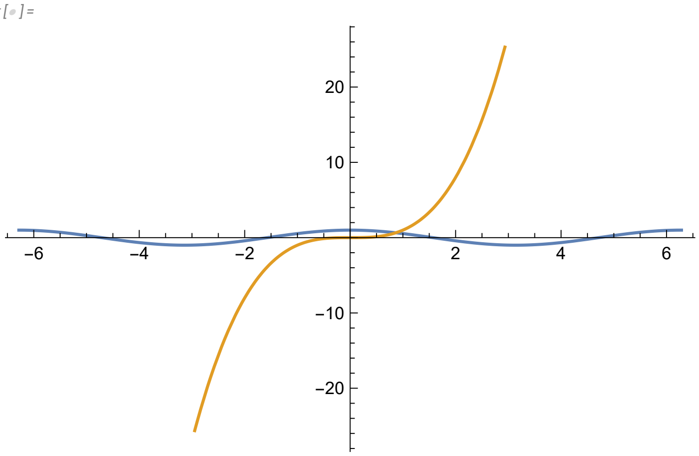
Out[ ]=



In[ ]:=

```
Plot[{Cos[x], x^3}, {x, -2 Pi, 2 Pi}]
```

Out[ ]=



In[ ]:=

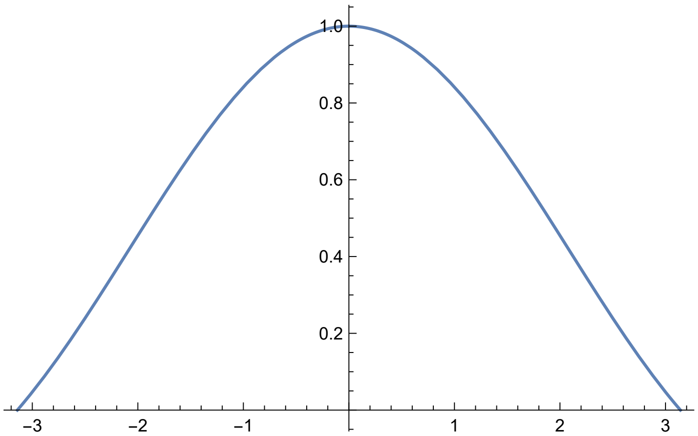
```
FindRoot[Cos[x] == x^3, {x, 0.5}]
```

Out[ ]=

```
{x → 0.865474}
```

In[ ]:=
```
Plot[Sin[x] / x, {x, -Pi, Pi}]
```

Out[ ]=



In[ ]:=
```
Limit[Sin[x] / x, x → 0, Direction → "FromBelow"]
```

Out[ ]=
1

In[ ]:=
```
Limit[Sin[x] / x, x → 0, Direction → "FromAbove"]
```

Out[ ]=
1

In[ ]:=
```
Limit[Sin[x] / x, x → 0]
```

Out[ ]=
1

Verify existence of limits!

In[ ]:=
```
D[x^2 Sin[x] - 3 x + 1, x]
```

Out[ ]=
$-3 + x^2 \text{Cos}[x] + 2 x \text{Sin}[x]$

In[ ]:=
```
f[x_] := x^3 - 2 x^2 + 5; f'[x]
```

Out[ ]=
$-4 x + 3 x^2$

In[ ]:=
```
f''[x]
```

Out[ ]=
$-4 + 6 x$

In[∘]:=
```
D[f[x], {x, 3}]
```
Out[∘]=
6

In[∘]:=
```
D[x^2 y[x]^2 + x Sin[y[x]] == 1, x]
```
Out[∘]=
$\text{Sin}[y[x]] + 2\,x\,y[x]^2 + x\,\text{Cos}[y[x]]\,y'[x] + 2\,x^2\,y[x]\,y'[x] == 0$

In[∘]:=
```
Solve[%, y'[x]]
```
Out[∘]=
$$\left\{\left\{y'[x] \to \frac{-\text{Sin}[y[x]] - 2\,x\,y[x]^2}{x\,(\text{Cos}[y[x]] + 2\,x\,y[x])}\right\}\right\}$$

In[∘]:=
```
f[x_, y_, z_] := x^4 z^3 y + x Sin[z + y];
D[f[x, y, z], x]
```
Out[∘]=
$4\,x^3\,y\,z^3 + \text{Sin}[y + z]$

In[∘]:=
```
D[f[x, y, z], {x, 2}, {y, 1}, {z, 1}]
```
Out[∘]=
$36\,x^2\,z^2$

In[∘]:=
```
Integrate[x^2 + 1, x]
```
Out[∘]=
$$x + \frac{x^3}{3}$$

In[∘]:=
```
Integrate[x^2 + 1, {x, -1, 2}]
```
Out[∘]=
6

In[∘]:=
```
f[x_, y_] := 1 - (x^2 / 4) - (y^2 / 9);
Integrate[f[x, y], {x, -2, 2}, {y, -3, 3}]
```
Out[∘]=
8

In[∘]:=
```
Integrate[Exp[-x^2], {x, 0, Infinity}]
```
Out[∘]=
$$\frac{\sqrt{\pi}}{2}$$

In[ ]:=
```
Integrate[3 x^2 (2010 - x^3) ^1999, x]
```

Out[ ]=
```
3 ( … 1 … )
large output | show less | show more | show all | set size limit...
```

You can easily find the above integral using u substituion: $-\frac{1}{2000}\left(2010-x^3\right)^{2000}+C.$

In[ ]:=
```
Series[E^x, {x, 0, 6}]
```

Out[ ]=
$$1+x+\frac{x^2}{2}+\frac{x^3}{6}+\frac{x^4}{24}+\frac{x^5}{120}+\frac{x^6}{720}+O[x]^7$$

In[ ]:=
```
Normal[Series[Cos[x], {x, 0, 8}]]
```

Out[ ]=
$$1-\frac{x^2}{2}+\frac{x^4}{24}-\frac{x^6}{720}+\frac{x^8}{40320}$$

In[ ]:=
```
Series[Log[x], {x, 1, 5}]
```

Out[ ]=
$$(x-1)-\frac{1}{2}(x-1)^2+\frac{1}{3}(x-1)^3-\frac{1}{4}(x-1)^4+\frac{1}{5}(x-1)^5+O[x-1]^6$$

In[ ]:=
```
Sum[1 / n^2, {n, 1, Infinity}]
```

Out[ ]=
$$\frac{\pi^2}{6}$$

In[ ]:=
```
u = {1, -3}
```

Out[ ]=
```
{1, -3}
```

In[ ]:=
```
MatrixForm[u]
```

Out[ ]//MatrixForm=
$$\begin{pmatrix}1\\-3\end{pmatrix}$$

In[ ]:=
```
v = {{-2, 5, -1}}
```

Out[ ]=
```
{{-2, 5, -1}}
```

In[ ]:=
```
MatrixForm[v]
```
Out[ ]//MatrixForm=

$\begin{pmatrix} -2 & 5 & -1 \end{pmatrix}$

In[ ]:=
```
m = {{1, 2}, {3, 4}, {5, 6}}
```
Out[ ]=
```
{{1, 2}, {3, 4}, {5, 6}}
```
In[ ]:=
```
n = {{3, 2, 1}, {6, 5, 4}}
```
Out[ ]=
```
{{3, 2, 1}, {6, 5, 4}}
```
In[ ]:=
```
l = {{3, -1}, {-2, 6}, {-4, 5}}
```
Out[ ]=
```
{{3, -1}, {-2, 6}, {-4, 5}}
```
In[ ]:=
```
m - 2 l
```
Out[ ]=
```
{{-5, 4}, {7, -8}, {13, -4}}
```
In[ ]:=
```
n.m
```
Out[ ]=
```
{{14, 20}, {41, 56}}
```
In[ ]:=
```
{{14, 20}, {41, 56}}
```
Out[ ]=
```
{{14, 20}, {41, 56}}
```
In[ ]:=
```
MatrixForm[n.m]
```
Out[ ]//MatrixForm=

$$\begin{pmatrix} 14 & 20 \\ 41 & 56 \end{pmatrix}$$

In[ ]:=
```
Dimensions[m]
```
Out[ ]=
```
{3, 2}
```
In[ ]:=
```
i = IdentityMatrix[3]
```
Out[ ]=
```
{{1, 0, 0}, {0, 1, 0}, {0, 0, 1}}
```

In[ ]:=
```
d = DiagonalMatrix[{2, 2, -3}]
```
Out[ ]=
```
{{2, 0, 0}, {0, 2, 0}, {0, 0, -3}}
```
In[ ]:=
```
Transpose[m]
```
Out[ ]=
```
{{1, 3, 5}, {2, 4, 6}}
```
In[ ]:=
```
MatrixForm[Transpose[m]]
```
Out[ ]//MatrixForm=

$$\begin{pmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \end{pmatrix}$$

In[ ]:=
```
a = {{2., 3, -5}, {-1, 4, 2}, {5, 7, 2}}
```
Out[ ]=
```
{{2., 3, -5}, {-1, 4, 2}, {5, 7, 2}}
```
In[ ]:=
```
Det[a]
```
Out[ ]=
```
159.
```
In[ ]:=
```
Inverse[a]
```
Out[ ]=
```
{{-0.0377358, -0.257862, 0.163522},
 {0.0754717, 0.18239, 0.00628931}, {-0.169811, 0.00628931, 0.0691824}}
```
In[ ]:=
```
MatrixForm[Inverse[a]]
```
Out[ ]//MatrixForm=

$$\begin{pmatrix} -0.0377358 & -0.257862 & 0.163522 \\ 0.0754717 & 0.18239 & 0.00628931 \\ -0.169811 & 0.00628931 & 0.0691824 \end{pmatrix}$$

In[ ]:=
```
MatrixPower[a, 3]
```
Out[ ]=
```
{{-101., -238., 58.}, {66., 239., 68.}, {-66., 218., 35.}}
```
In[ ]:=
```
Eigenvalues[a]
```
Out[ ]=
```
{6.52411 + 0. i, 0.737944 + 4.88125 i, 0.737944 - 4.88125 i}
```

In[ ]:=
```
Eigenvectors[a]
```

Out[ ]=
```
{{-0.312408 + 0. i, 0.662901 + 0. i, 0.680414 + 0. i},
 {0.746572 + 0. i, -0.12497 + 0.189974 i, 0.113461 - 0.614857 i},
 {0.746572 + 0. i, -0.12497 - 0.189974 i, 0.113461 + 0.614857 i}}
```

In[ ]:=
```
Eigensystem[a]
```

Out[ ]=
```
{{6.52411, 0.737944 + 4.88125 i, 0.737944 - 4.88125 i},
 {{-0.312408 + 0. i, 0.662901 + 0. i, 0.680414 + 0. i},
  {0.746572 + 0. i, -0.12497 + 0.189974 i, 0.113461 - 0.614857 i},
  {0.746572 + 0. i, -0.12497 - 0.189974 i, 0.113461 + 0.614857 i}}}
```

In[ ]:=
```
Solve[{2 x + 3 y - 5 z == 14, -x + 4 y + 2 z == 0, 5 x + 7 y + 2 z == -9}, {x, y, z}]
```

Out[ ]=
```
{{x → -2, y → 1, z → -3}}
```

In[ ]:=
```
b = {14, 0, -9}
```

Out[ ]=
```
{14, 0, -9}
```

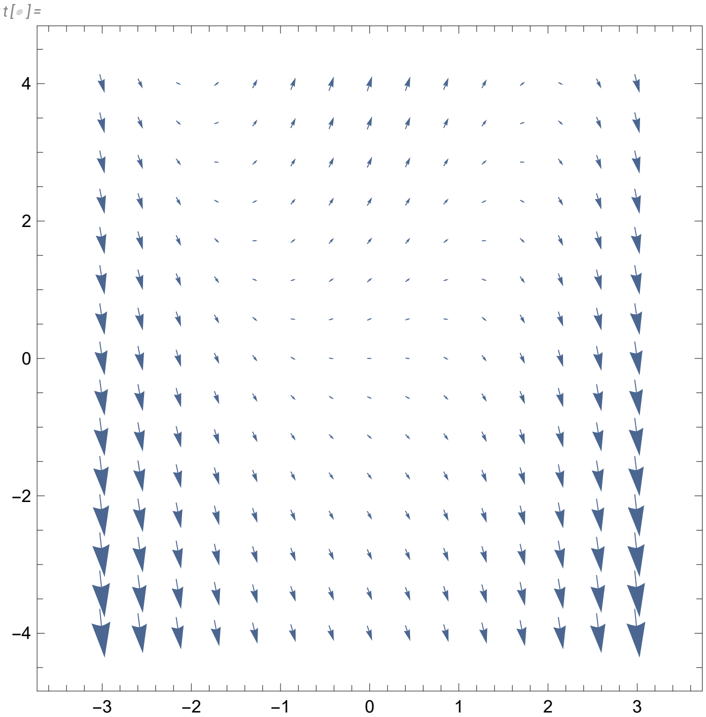
In[ ]:=
```
Inverse[a].b
```

Out[ ]=
```
{-2., 1., -3.}
```

In[ ]:=

```
VectorPlot[{1, y - x^2}, {x, -3, 3}, {y, -4, 4}]
```

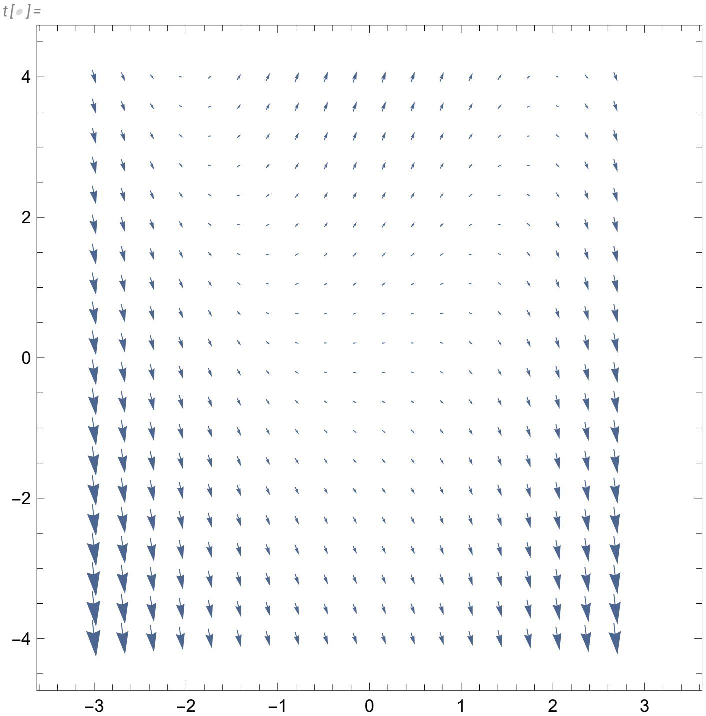
Out[ ]=



In[ ]:=

```
VectorPlot[{1, y - x^2}, {x, -3, 3}, {y, -4, 4}, VectorPoints → 20]
```

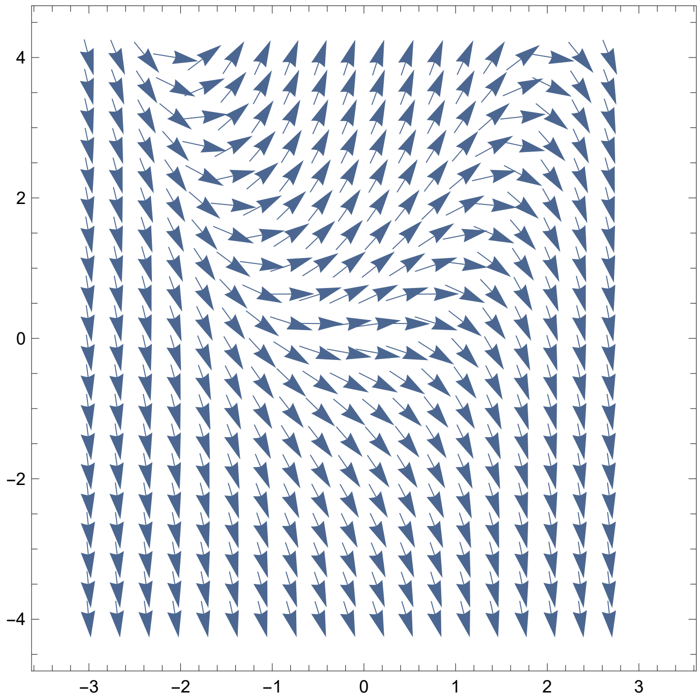
Out[ ]=



In[ ]:=

```
VectorPlot[{1, y - x^2} / (0.1 + 1^2 + (y - x^2) ^2) ^ (1 / 2),
 {x, -3, 3}, {y, -4, 4}, VectorPoints → 20]
```

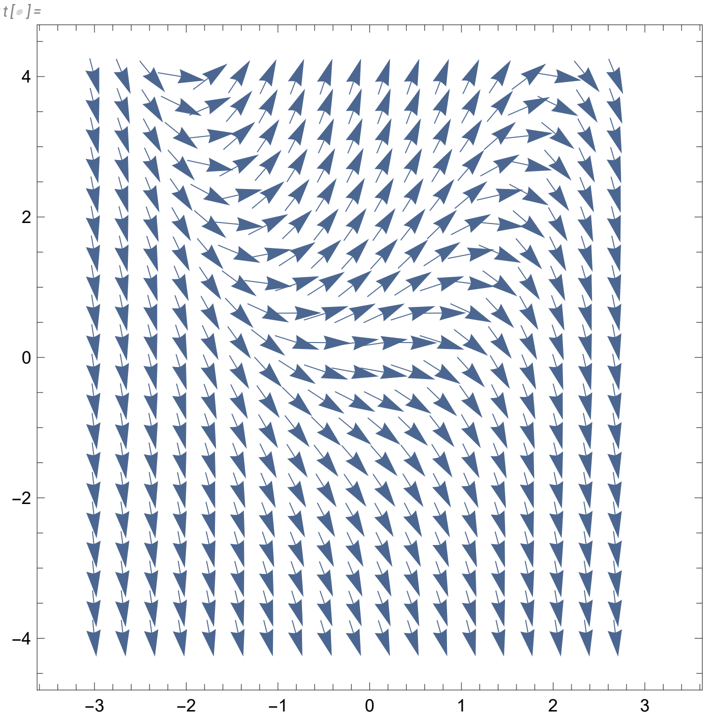
Out[ ]=



In[ ]:=

```
VectorPlot[Normalize[{1, y - x^2}], {x, -3, 3}, {y, -4, 4}, VectorPoints → 20]
```

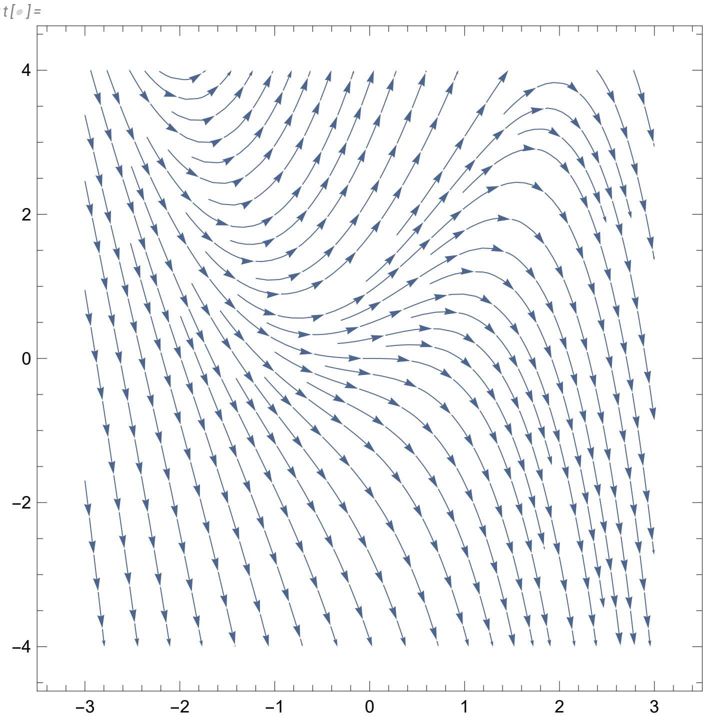
Out[ ]=



In[•]:=

```
StreamPlot[{1, y - x^2}, {x, -3, 3}, {y, -4, 4}]
```

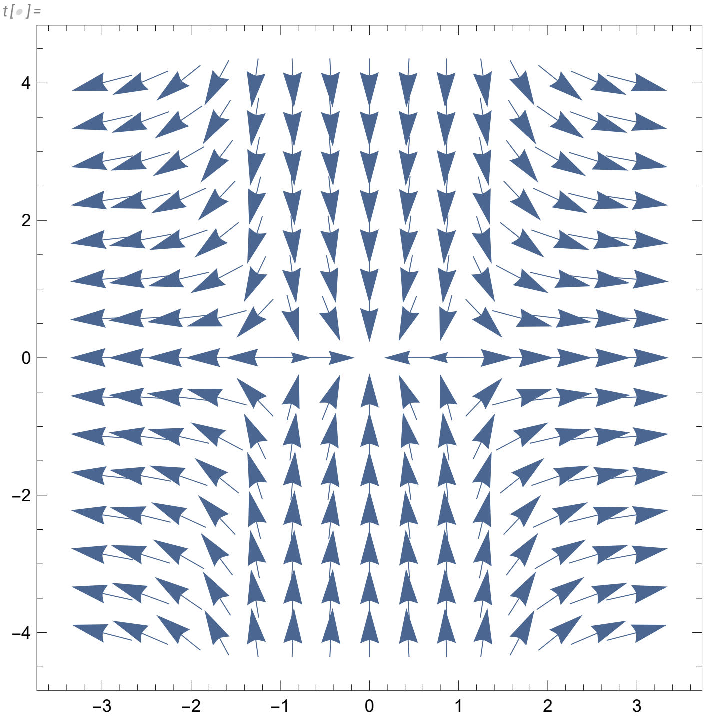
Out[•]=



In[•]:=

```
VectorPlot[{-x + x^3, -2 y} / (0.1 + (-x + x^3)^2 + (-2 y)^2)^(1 / 2), {x, -3, 3}, {y, -4, 4}]
```

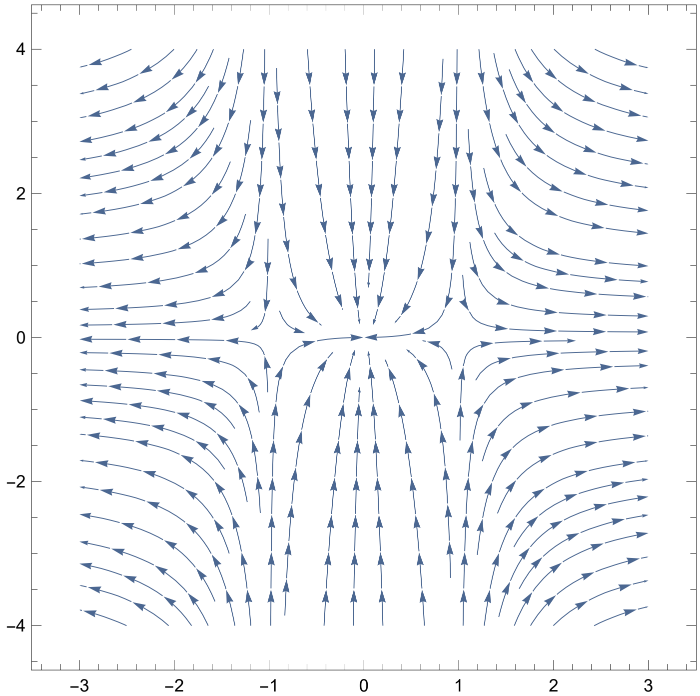
Out[•]=



In[ ]:=

```
StreamPlot[{-x + x^3, -2 y}, {x, -3, 3}, {y, -4, 4}]
```

Out[ ]=



In[ ]:=

```
DSolve[y'[x] == y[x] - x^2, y[x], x]
```

Out[ ]=

$$\{\{y[x] \to 2 + 2x + x^2 + e^x c_1\}\}$$

The general solution of the above ODE is You can easily find the above integral using u substitution: $Ce^x + x^2 + 2x + 2$.

In[ ]:=

```
DSolve[{y'[x] == y[x] - x^2, y[0] == 2}, y[x], x]
```

Out[ ]=

$$\{\{y[x] \to 2 + 2x + x^2\}\}$$

In[ ]:=

```
DSolve[{x'[t] == 2 x[t] + y[t], y'[t] == x[t] - 2 y[t]}, {x[t], y[t]}, t]
```

Out[ ]=

$$\left\{\left\{x[t] \to \frac{1}{10} e^{-\sqrt{5}\, t} \left(5 - 2\sqrt{5} + 5 e^{2\sqrt{5}\, t} + 2\sqrt{5}\, e^{2\sqrt{5}\, t}\right) c_1 + \frac{e^{-\sqrt{5}\, t}\left(-1 + e^{2\sqrt{5}\, t}\right) c_2}{2\sqrt{5}},\right.\right.$$

$$\left.\left. y[t] \to \frac{e^{-\sqrt{5}\, t}\left(-1 + e^{2\sqrt{5}\, t}\right) c_1}{2\sqrt{5}} - \frac{1}{10} e^{-\sqrt{5}\, t}\left(-5 - 2\sqrt{5} - 5 e^{2\sqrt{5}\, t} + 2\sqrt{5}\, e^{2\sqrt{5}\, t}\right) c_2\right\}\right\}$$

In[ ]:=

```
DSolve[{x'[t] == 2 x[t] + y[t], y'[t] == x[t] - 2 y[t], x[0] == 2, y[0] == 1}, {x[t], y[t]}, t]
```

Out[ ]=

$$\left\{\left\{x[t] \to \frac{1}{2} e^{-\sqrt{5}\,t} \left(2 - \sqrt{5} + 2 e^{2\sqrt{5}\,t} + \sqrt{5}\, e^{2\sqrt{5}\,t}\right),\ y[t] \to \frac{1}{2} e^{-\sqrt{5}\,t} \left(1 + e^{2\sqrt{5}\,t}\right)\right\}\right\}$$

In[ ]:=

```
NDSolve[{y'[x] == y[x] - x^2, y[0] == 2}, y[x], {x, -3, 3}]
```

Out[ ]=

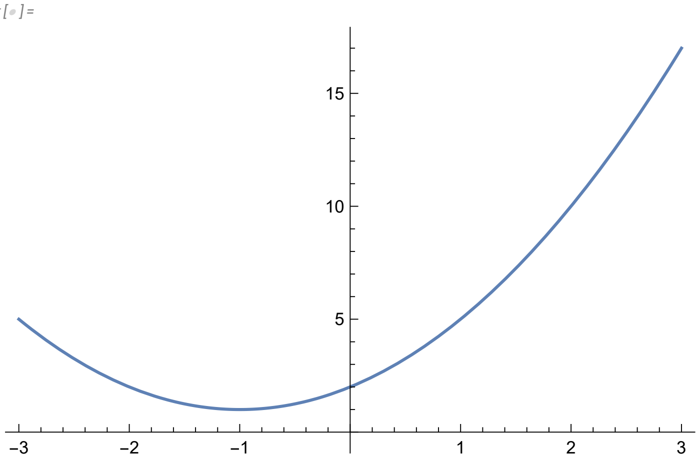
```
{{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}}
```

The numerical solution can be graphed, as shown below.

In[ ]:=

```
Plot[Evaluate[y[x] /. %], {x, -3, 3}]
```

Out[ ]=



In[∘]:=

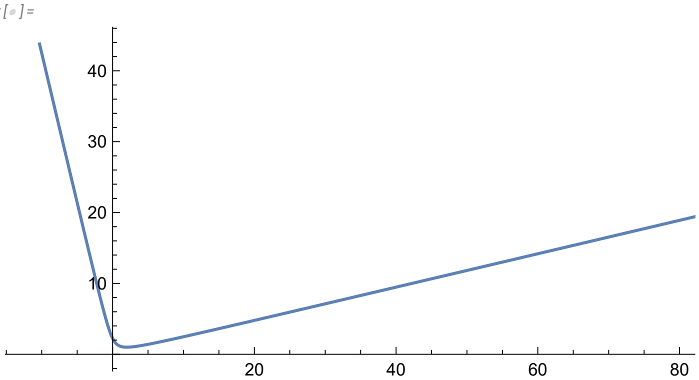
```
NDSolve[{x'[t] == 2 x[t] + y[t], y'[t] == x[t] - 2 y[t], x[0] == 2, y[0] == 1},
 {x[t], y[t]}, {t, -2, 2}]
ParametricPlot[Evaluate[{x[t], y[t]} /. %], {t, -2, 2}]
```

Out[∘]=

{{x[t] → InterpolatingFunction[ Domain: {{-2., 2.}} Output: scalar][t],

y[t] → InterpolatingFunction[ Domain: {{-2., 2.}} Output: scalar][t]}}

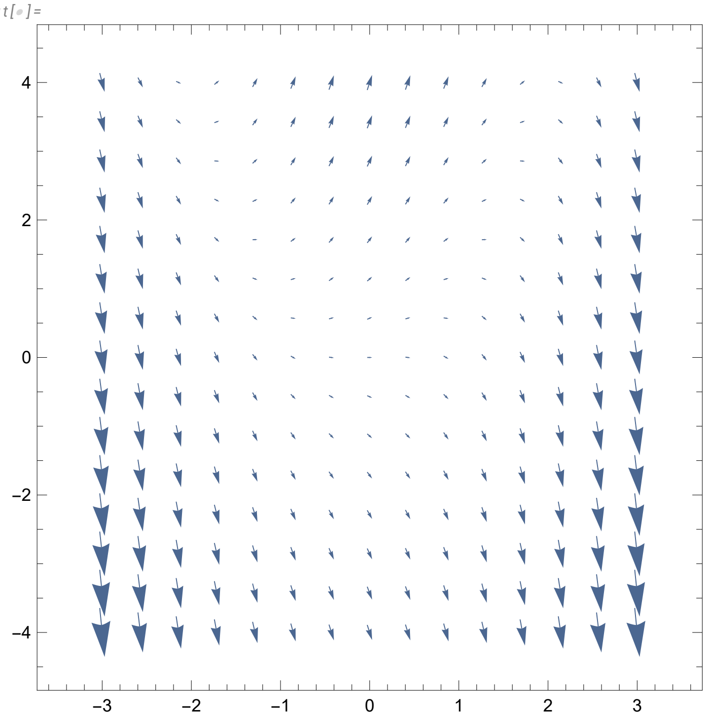
Out[∘]=



In[∘]:=

```
graph1 = VectorPlot[{1, y - x^2}, {x, -3, 3}, {y, -4, 4}]
```

Out[∘]=

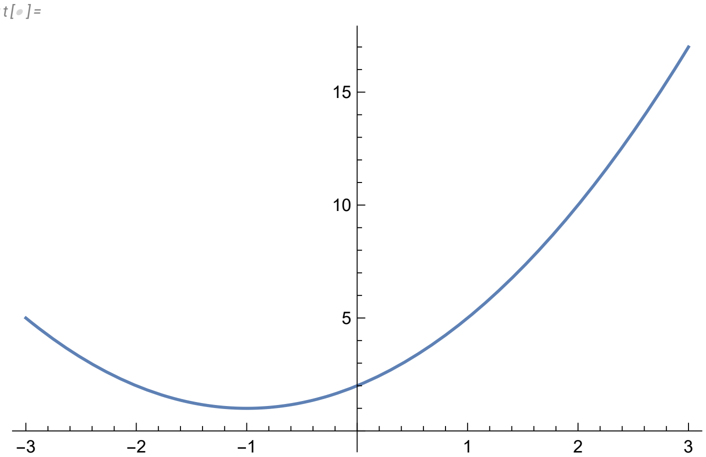


In[ ]:=
```
NDSolve[{y'[x] == y[x] - x^2, y[0] == 2}, y[x], {x, -3, 3}]
```

Out[ ]=
```
{{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}}
```

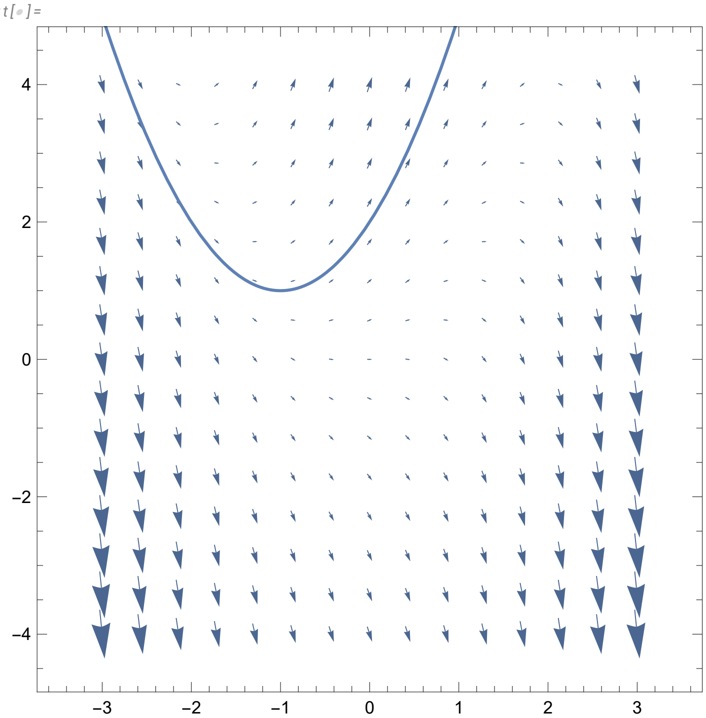
In[ ]:=
```
graph2 = Plot[Evaluate[y[x] /. %], {x, -3, 3}]
```

Out[ ]=



In[ ]:=
```
Show[graph1, graph2]
```

Out[ ]=

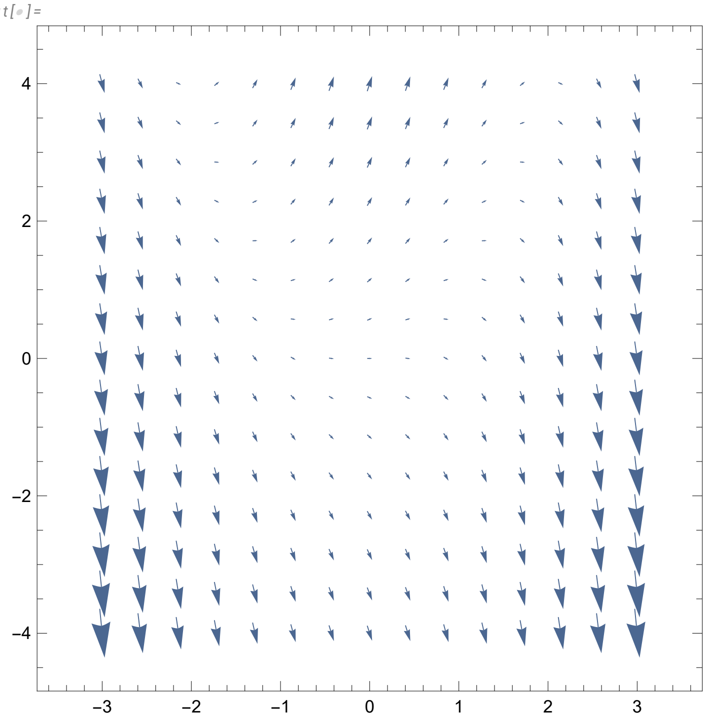


In the above the vector field and one solution are shown together.

In[∘]:=

```
graph1 = VectorPlot[{1, y - x^2}, {x, -3, 3}, {y, -4, 4}]
```

Out[∘]=



In[∘]:=

```
Table[NDSolve[{y'[x] == y[x] - x^2, y[0] == n}, y[x], {x, -3, 3}], {n, -3, 3, 1}]
```

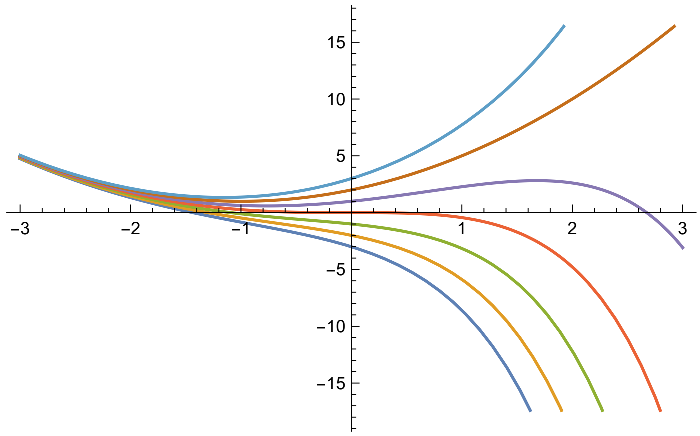
Out[∘]=

```
{{{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}},
 {{y[x] → InterpolatingFunction[ Domain: {{-3., 3.}} Output: scalar ][x]}}}
```

In[ ]:=

```
graph3 = Plot[Evaluate[y[x] /. %], {x, -3, 3}]
```

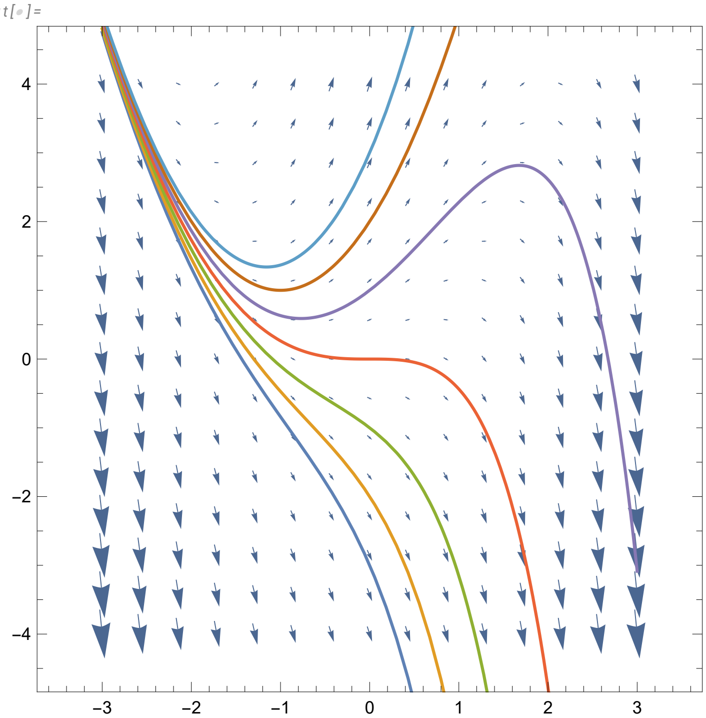
Out[ ]=



In[ ]:=

```
Show[graph1, graph3]
```

Out[ ]=



In the above the vector field and several solutions are shown together.