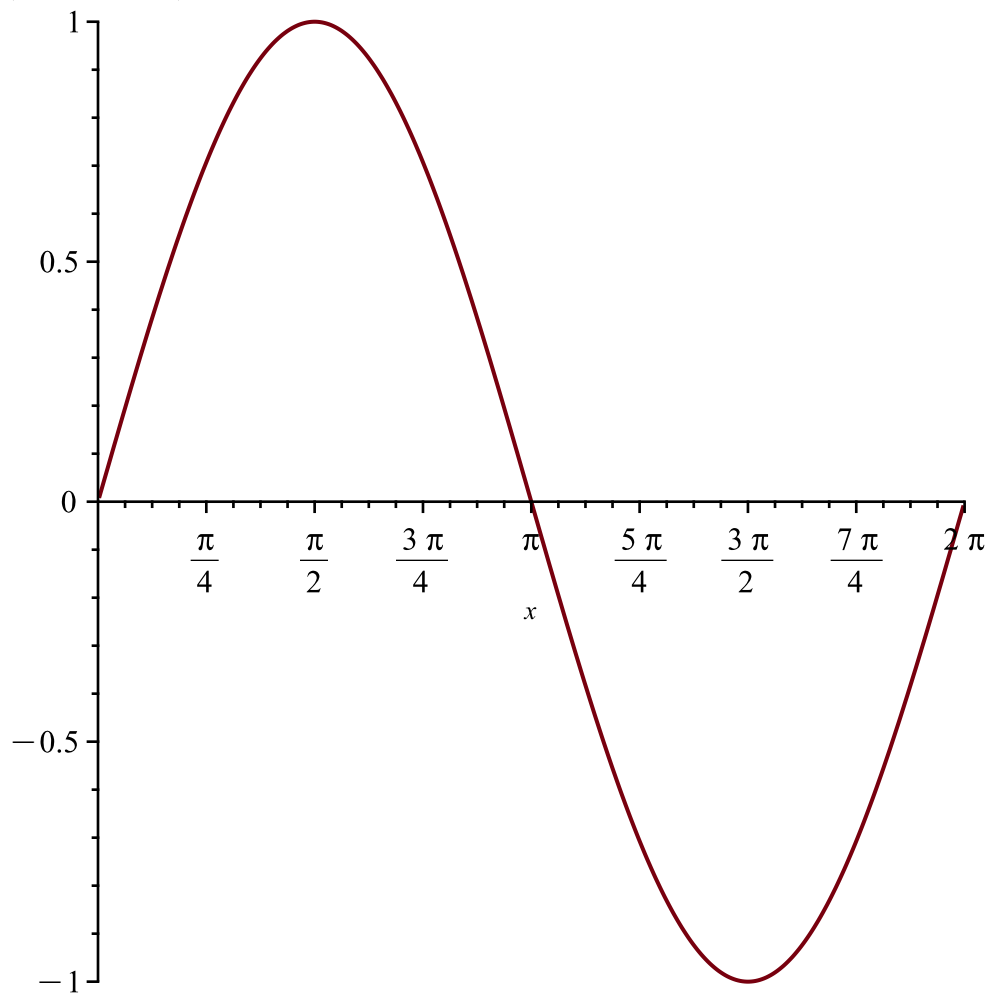


| | | | |
|---|--|---|------|
| > | $\left(\frac{2}{1}\right)$ | 2.000000000 | (1) |
| > | exp(1) | e | (2) |
| > | sqrt(3.) | 1.732050808 | (3) |
| > | sin(0.1) | 0.09983341665 | (4) |
| > | eval(pi) | π | (5) |
| > | 1 + 2 - 3 | 0 | (6) |
| > | $\frac{15.}{6}$ | 2.500000000 | (7) |
| > | ?exp | | |
| > | eval(PI) | Π | (8) |
| > | evalf $\left(\frac{1}{2}\right)$ | 0.5000000000 | (9) |
| > | evalf(sqrt(3)) | 1.732050808 | (10) |
| > | sqrt(3) | $\sqrt{3}$ | (11) |
| > | sqrt(3.) | 1.732050808 | (12) |
| > | $y := (x^2 + 2 \cdot x - 1)^3 \cdot (x^2 - 2)$ | $y := (x^2 + 2x - 1)^3 (x^2 - 2)$ | (13) |
| > | expand((x^2 + 2*x - 1)^3*(x^2 - 2)) | $x^8 + 6x^7 + 7x^6 - 16x^5 - 27x^4 + 14x^3 + 17x^2 - 12x + 2$ | (14) |
| > | expand(y) | $x^8 + 6x^7 + 7x^6 - 16x^5 - 27x^4 + 14x^3 + 17x^2 - 12x + 2$ | (15) |
| > | y := 'y' | y := y | (16) |
| > | y := (x + n)^5 | | (17) |

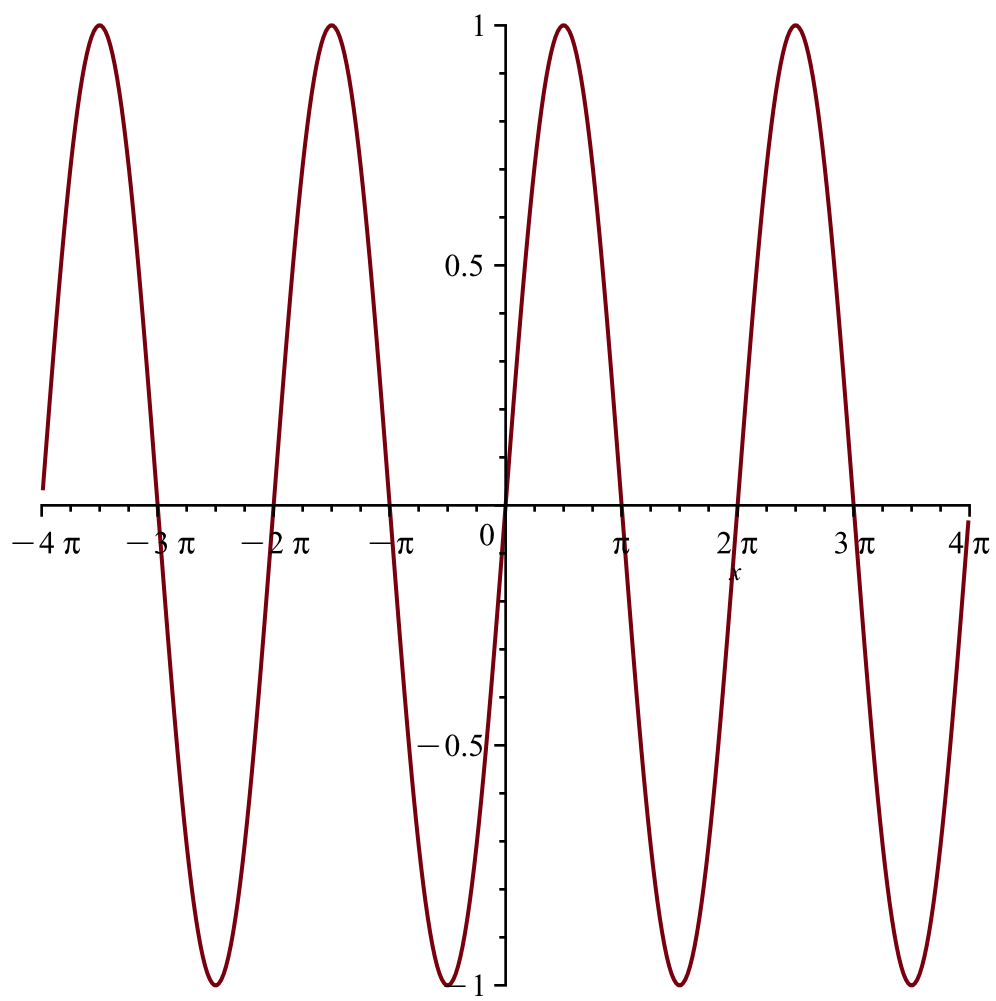
| | | |
|--|--|------|
| | $y := (x + n)^5$ | (17) |
| > <i>expand</i> (y) | $n^5 + 5 x n^4 + 10 x^2 n^3 + 10 x^3 n^2 + 5 x^4 n + x^5$ | (18) |
| > <i>factor</i> ($x^8 - 1$) | $(x - 1) (x + 1) (x^2 + 1) (x^4 + 1)$ | (19) |
| > <i>factor</i> $\left(\frac{2 \cdot x^2}{x^3 - 1} + \frac{3 \cdot x}{x^2 - 1}\right)$ | $\frac{(5 x^2 + 5 x + 3) x}{(x - 1) (x + 1) (x^2 + x + 1)}$ | (20) |
| > <i>simplify</i> ($\sin(x)^2 + \cos(x)^2$, <i>trig</i>) | 1 | (21) |
| > <i>eval</i> ($\exp(x) + \ln(x)$, $x = 1$) | e | (22) |
| > ? <i>subs</i> | | |
| > <i>subs</i> ($x = 1$, $\exp(x) + \ln(x)$) | $e + \ln(1)$ | (23) |
| > <i>solve</i> ($x^2 - 4 \cdot x + 3$) | 3, 1 | (24) |
| > <i>solve</i> ($x^2 \cdot y + 2 \cdot y - x$, y) | $\frac{x}{x^2 + 2}$ | (25) |
| > $y := 'y'$ | $y := y$ | (26) |
| > <i>solve</i> ($x^2 \cdot y + 2 \cdot y - x$, x) | $\frac{1 + \sqrt{-8 y^2 + 1}}{2 y}, -\frac{-1 + \sqrt{-8 y^2 + 1}}{2 y}$ | (27) |
| > <i>fsolve</i> ($x - \cos(x)$) | 0.7390851332 | (28) |
| > <i>fsolve</i> ($x^5 - 3 \cdot x^3 - 1$) | -1.668777593, -0.7418139305, 1.782308780 | (29) |
| > $y := 'y'$ | $y := y$ | (30) |
| > ? <i>solve</i> | | |
| > <i>solve</i> ($\{4 \cdot x + 3 \cdot y = 10, 3 \cdot x - y = 1\}$, $\{x, y\}$) | $\{x = 1, y = 2\}$ | (31) |
| > $f := x \mapsto \exp(x) - \sin(x)$ | $f := x \mapsto e^x - \sin(x)$ | (32) |

| | | |
|--|---|--|
| $\left[\begin{array}{l} > f(-1) \\ \\ \\ > f(0) \\ \\ \\ > diff(f(x), x) \\ \\ \\ > D(f)(0) \\ \\ \\ > D(f)(-1) \\ \\ \\ > diff(f(x), x\$2) \end{array} \right.$ | $\begin{array}{l} e^{-1} + \sin(1) \\ \\ 1 \\ \\ e^x - \cos(x) \\ \\ 0 \\ \\ e^{-1} - \cos(1) \\ \\ e^x + \sin(x) \end{array}$ | $\begin{array}{l} (33) \\ \\ (34) \\ \\ (35) \\ \\ (36) \\ \\ (37) \\ \\ (38) \end{array}$ |
| $\left[\begin{array}{l} > int(f(x), x=-1..1) \\ \\ \\ > f := 'f' \\ \\ \\ > g := \exp(x) - \sin(x) \\ \\ \\ > eval(g, x=0) \\ \\ \\ > diff(g, x) \\ \\ \\ > ?diff \\ \\ \\ > int(g, x=-1..1) \\ \\ \\ > f := diff(g, x\$2) \\ \\ \\ > eval(f, x=0) \\ \\ \\ > ?lim \\ \\ \\ > limit\left(\frac{\sin(x)}{x}, x=0\right) \\ \\ \\ > limit\left(\frac{(\cos(x) + 1)}{x - \text{Pi}}, x=\text{Pi}\right) \end{array} \right.$ | $\begin{array}{l} -e^{-1} + e \\ \\ f := f \\ \\ g := e^x - \sin(x) \\ \\ 1 \\ \\ e^x - \cos(x) \\ \\ -e^{-1} + e \\ \\ f := e^x + \sin(x) \\ \\ 1 \\ \\ 1 \\ \\ 0 \end{array}$ | $\begin{array}{l} (39) \\ \\ (40) \\ \\ (41) \\ \\ (42) \\ \\ (43) \\ \\ (44) \\ \\ (45) \\ \\ (46) \\ \\ (47) \\ \\ (48) \end{array}$ |

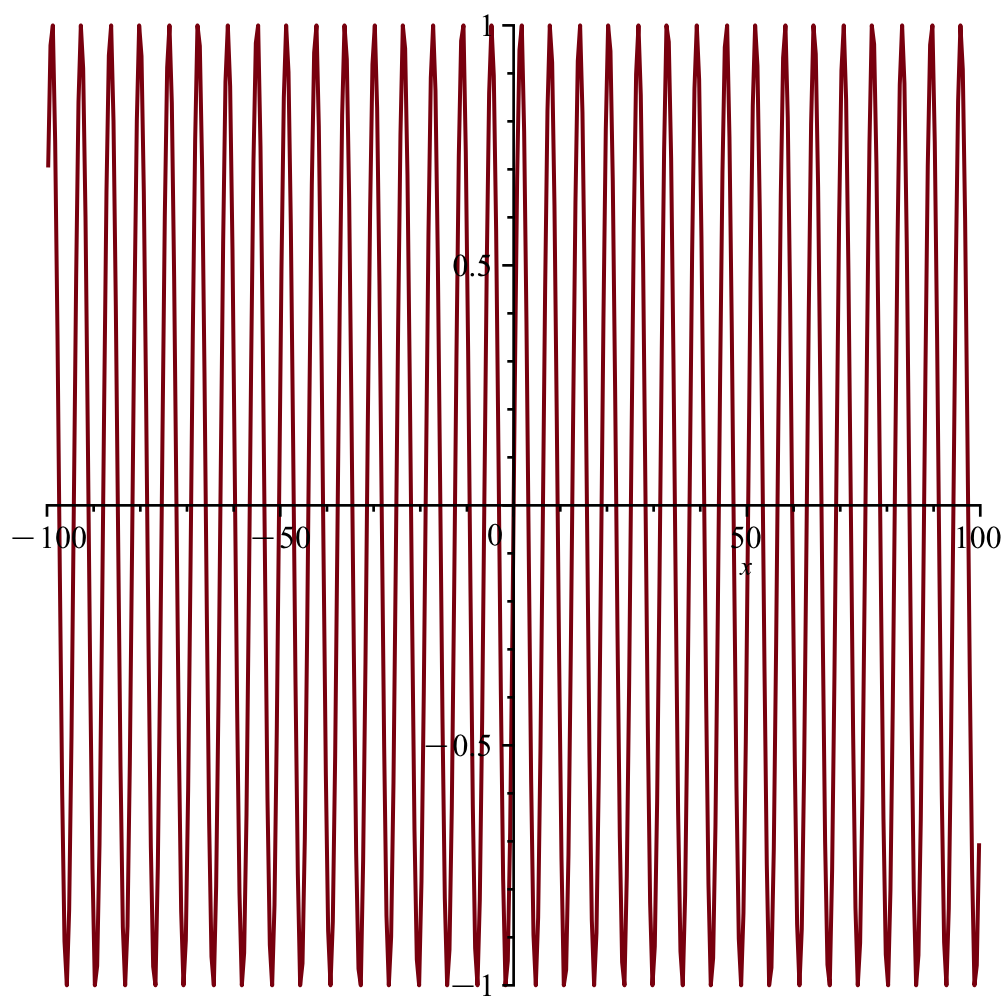
> `plot(sin(x), x=0..2 Pi)`



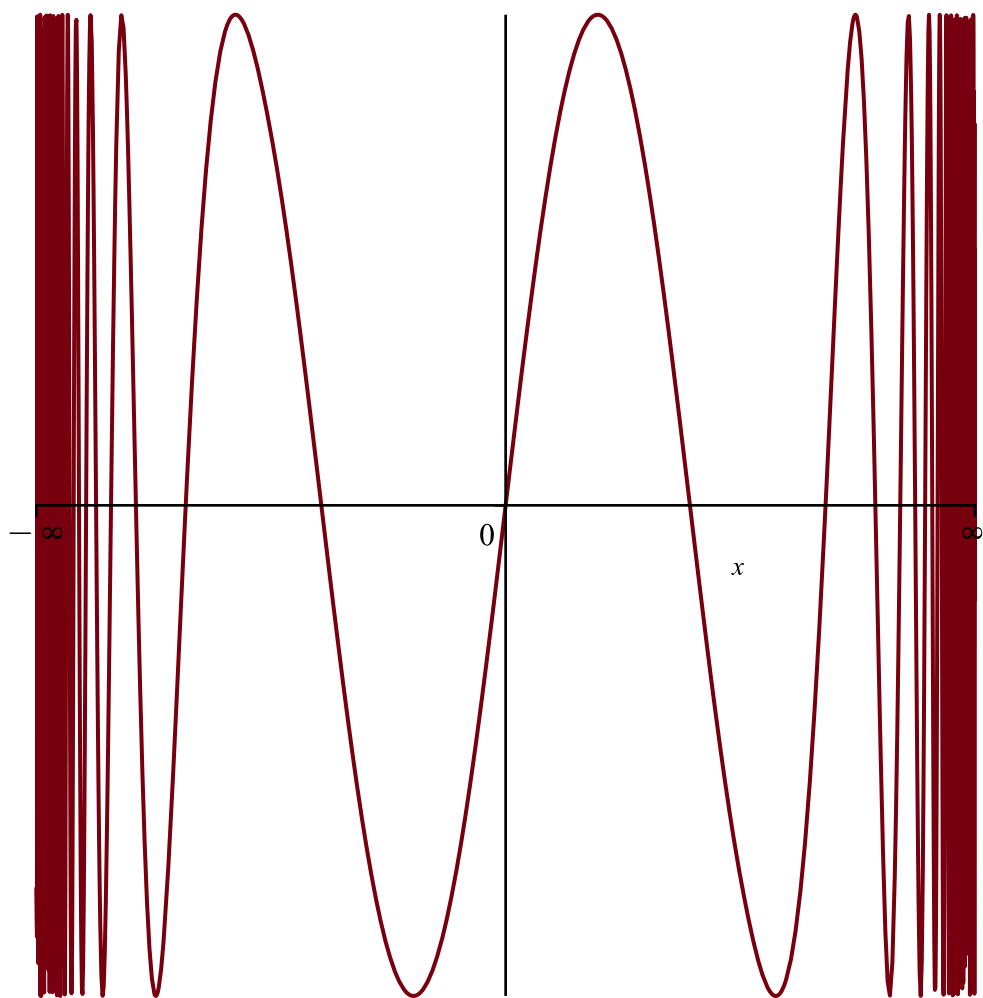
> `plot(sin(x), x=-4 · Pi..4·Pi)`



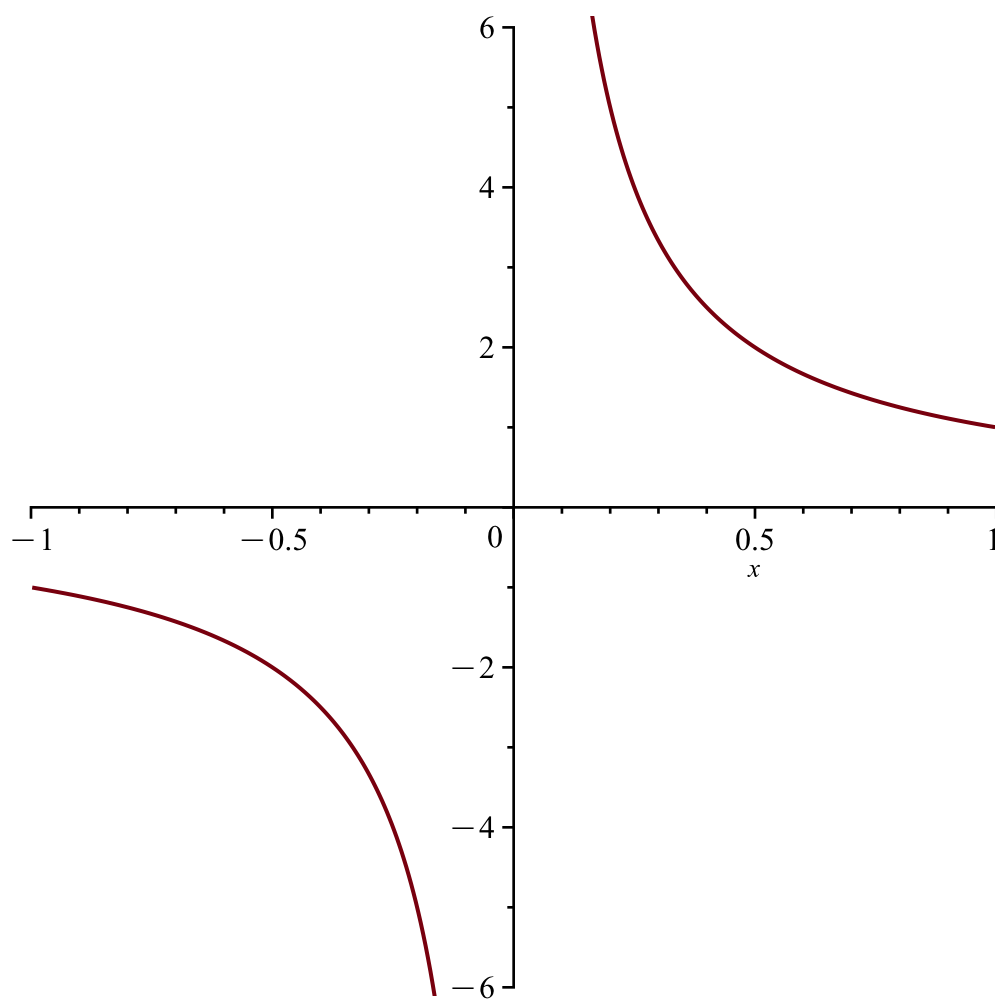
```
> plot(sin(x), x=-100..100)
```



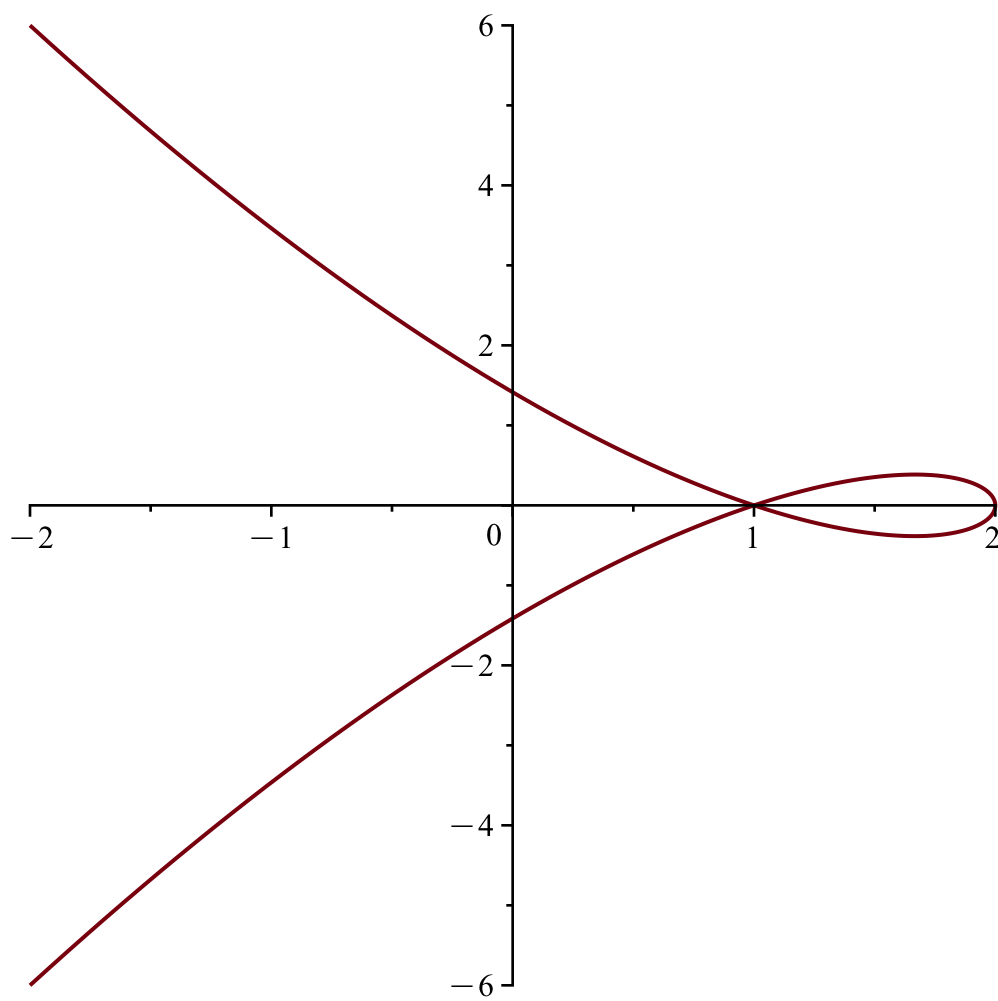
```
> plot(sin(x), x=-infinity..infinity)
```



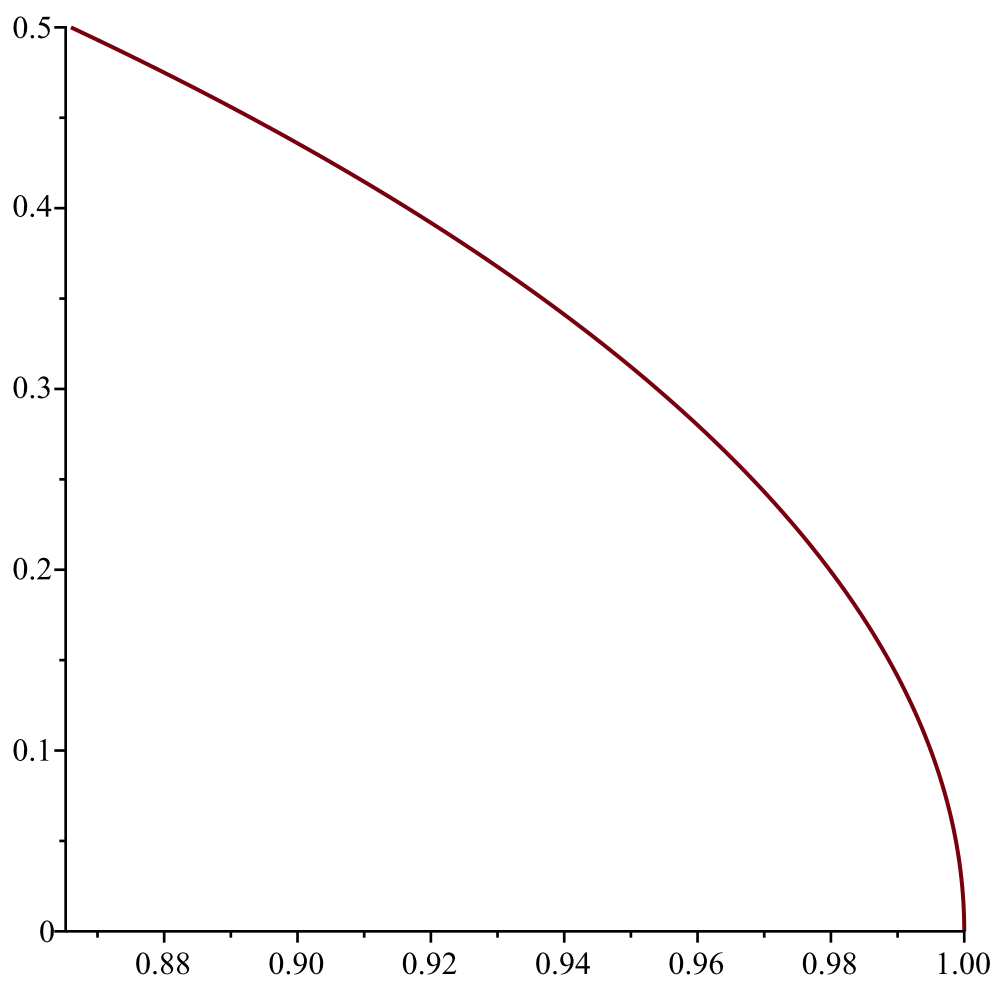
`> plot(1/x, x=-1..1)`



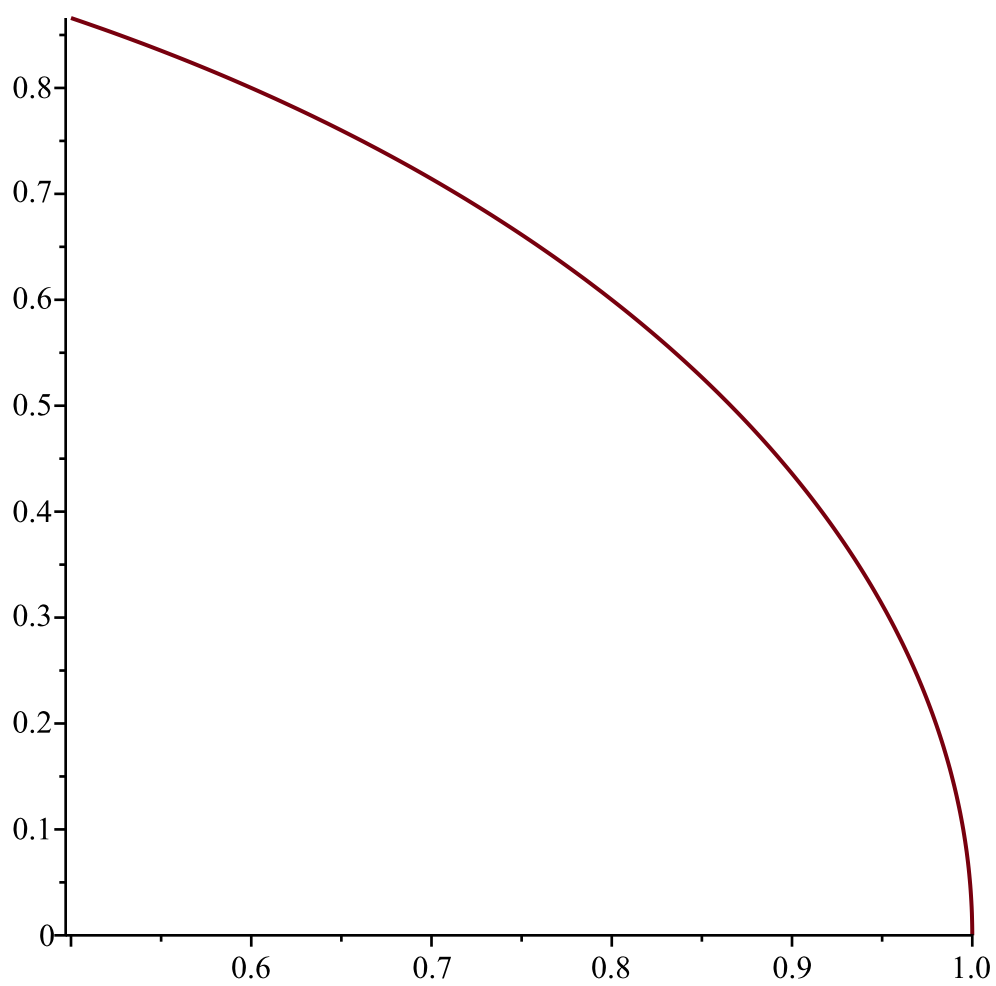
```
> plot([2 - t^2, t - t^3, t = -2 .. 2])
```

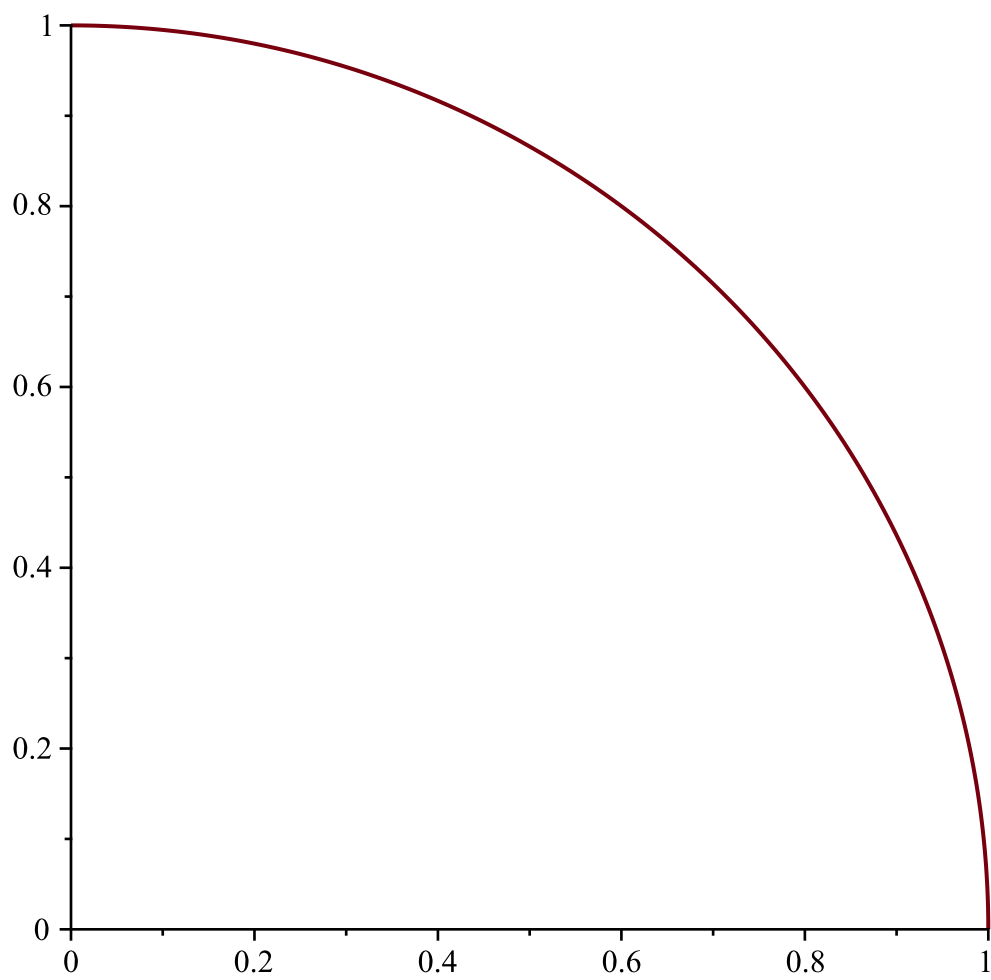
```
> ?plot  
> plot([cos(t), sin(t), t=0..Pi/6])
```



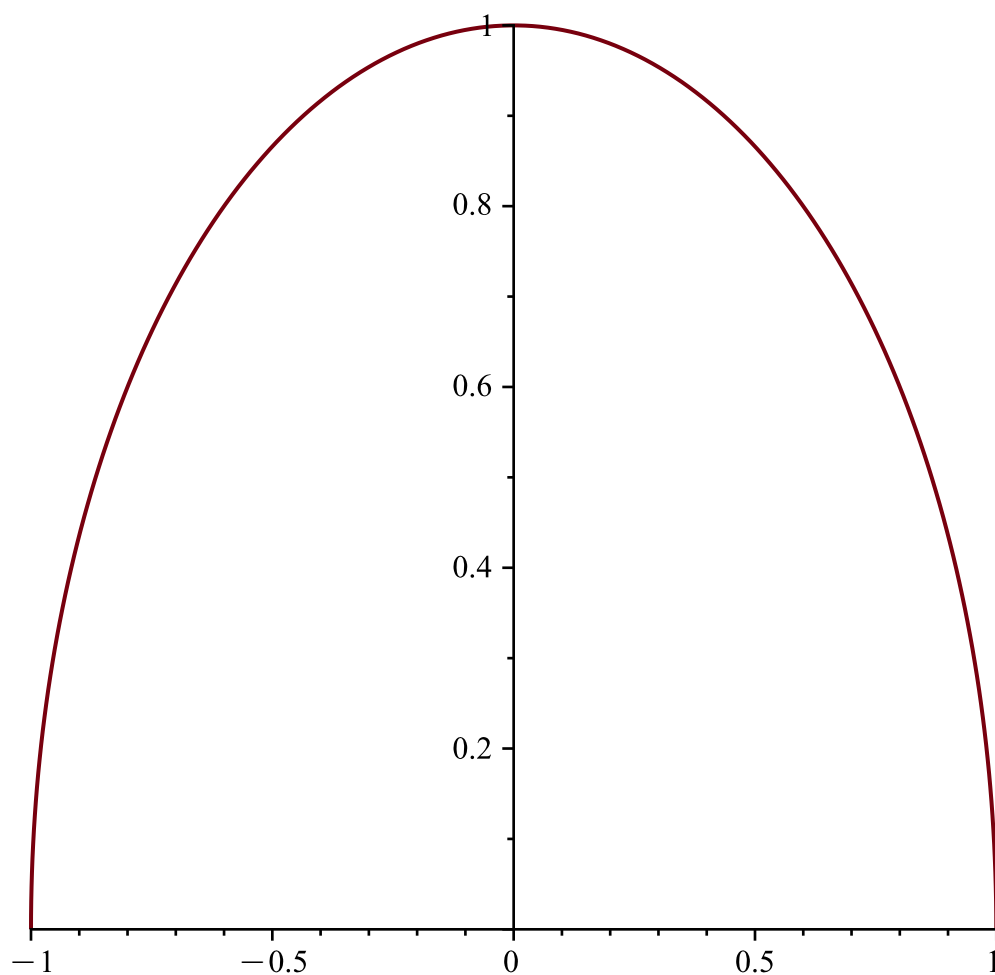
```
> plot([cos(t), sin(t), t = 0 ..  $\frac{\text{Pi}}{3}$  ])
```



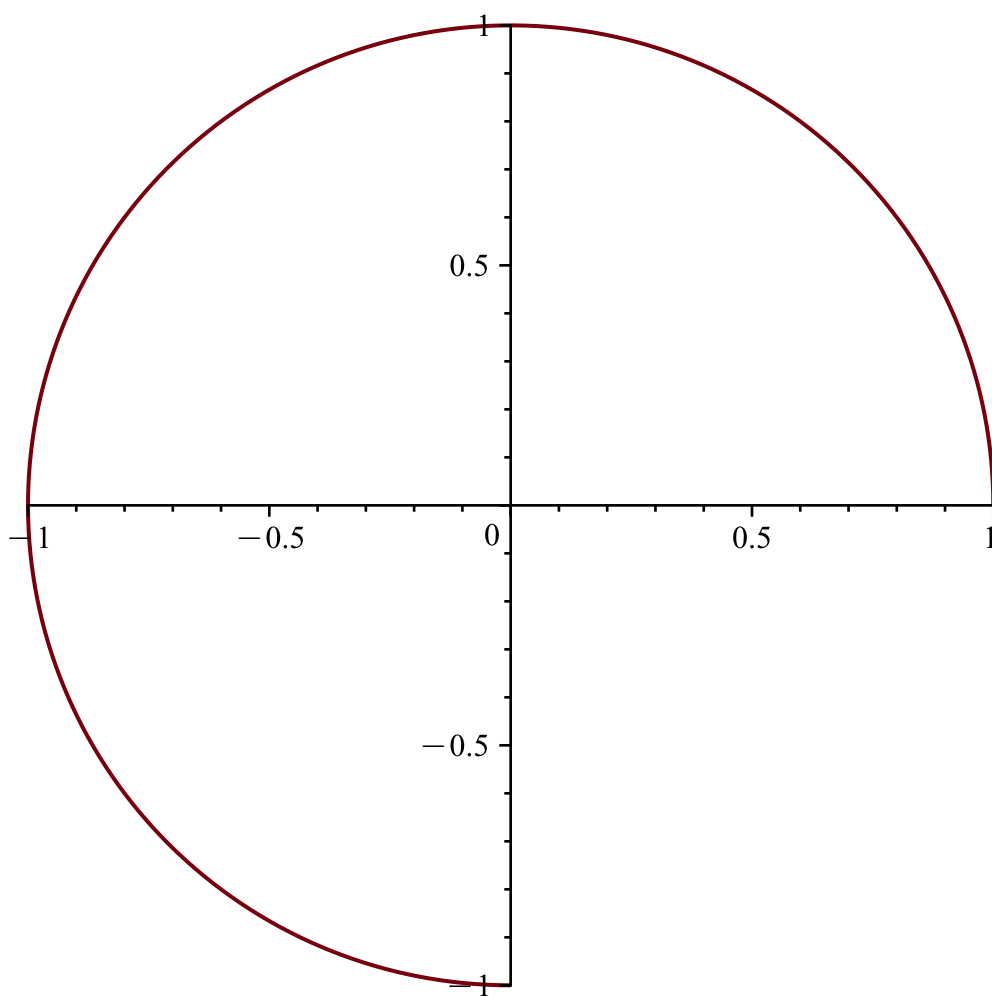
```
> plot([cos(t), sin(t), t = 0 ..  $\frac{\text{Pi}}{2}$ ])
```



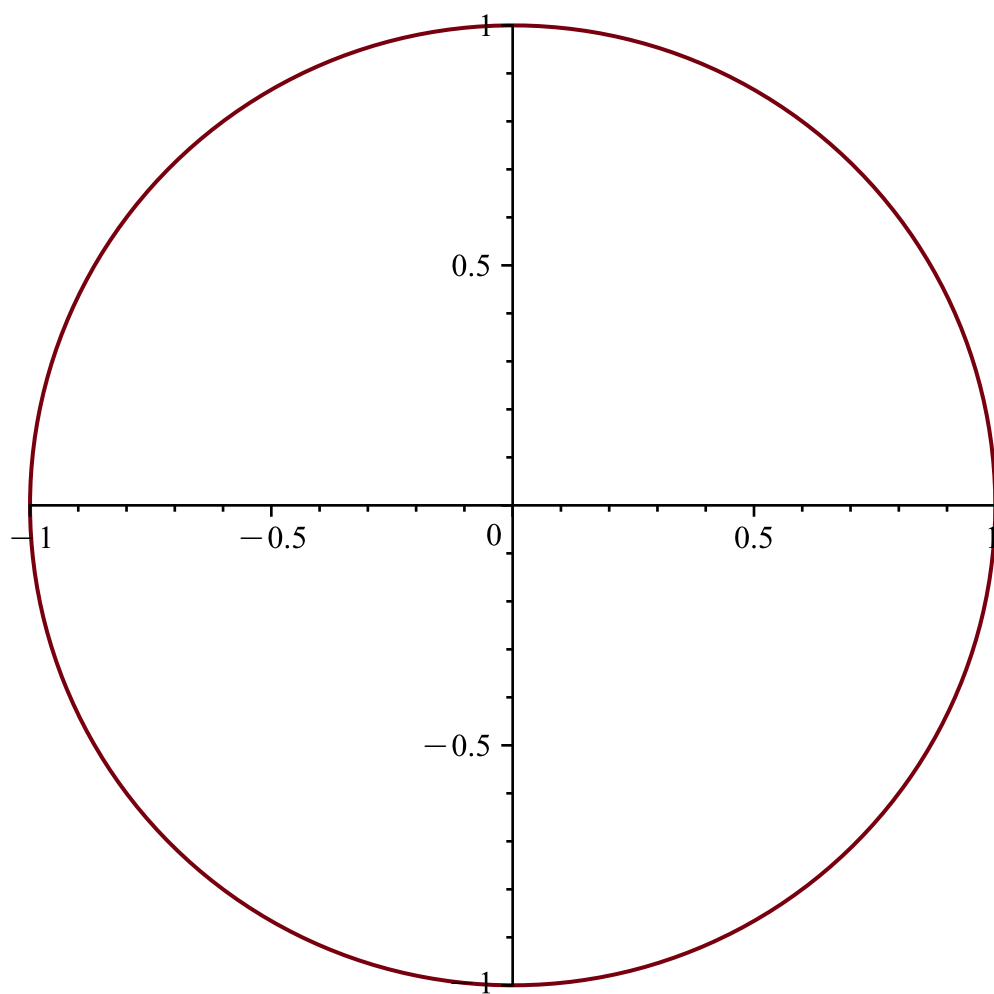
```
=  
> plot([cos(t), sin(t), t=0..Pi])
```



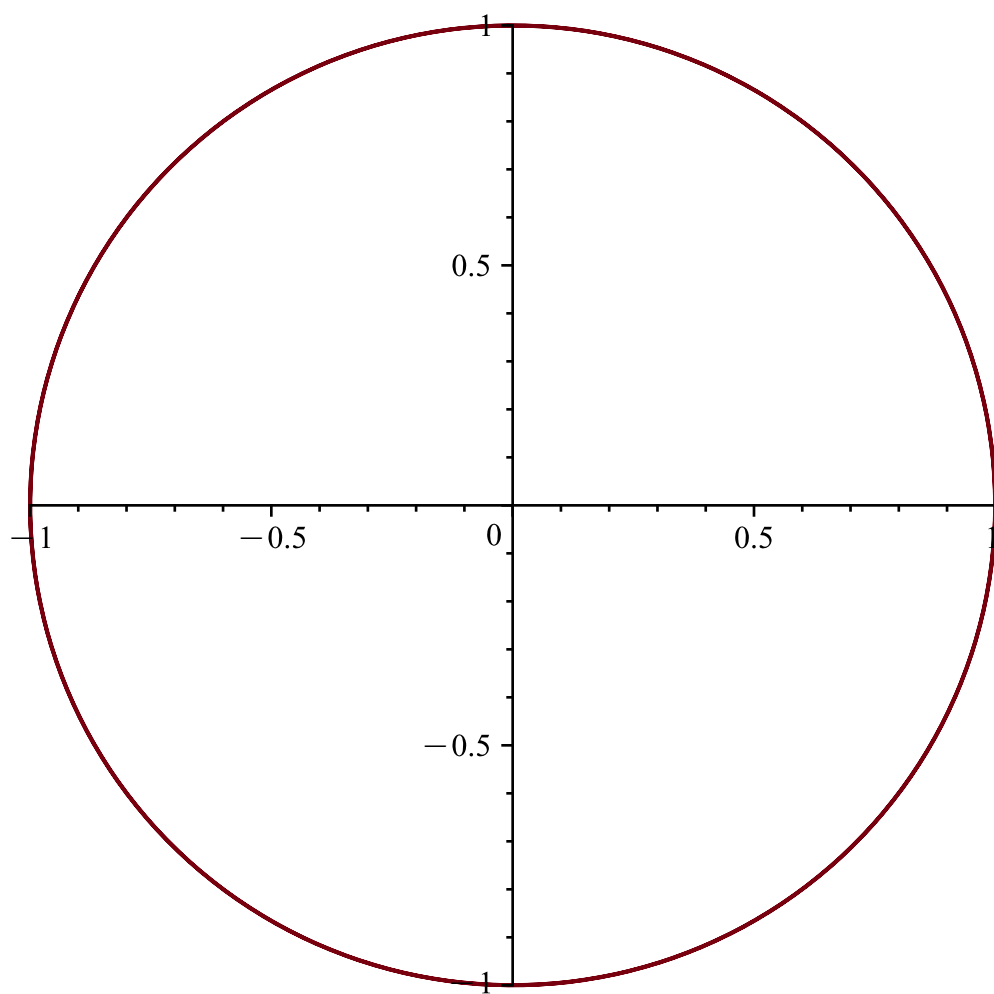
```
> plot([cos(t), sin(t), t=0.. $\frac{3 \cdot \text{Pi}}{2}$ ])
```



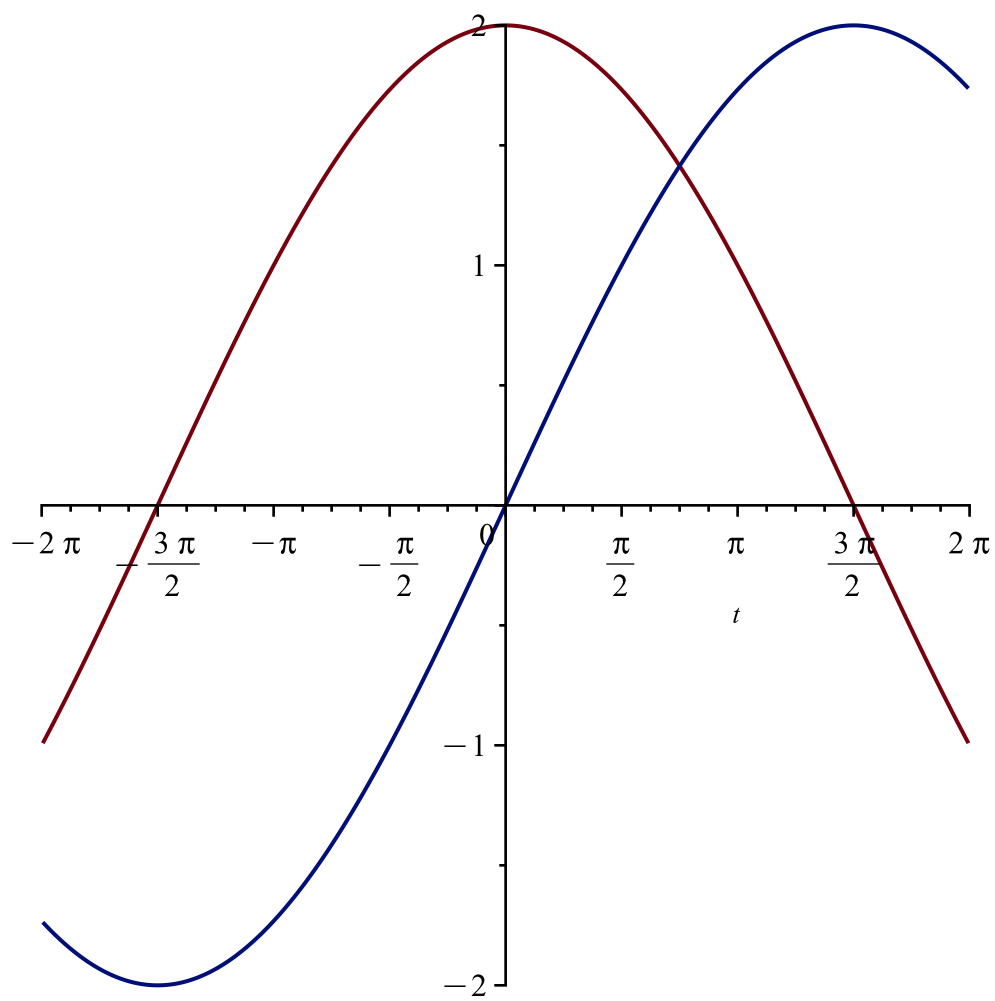
```
=  
> plot([cos(t), sin(t), t=0..Pi·2])
```



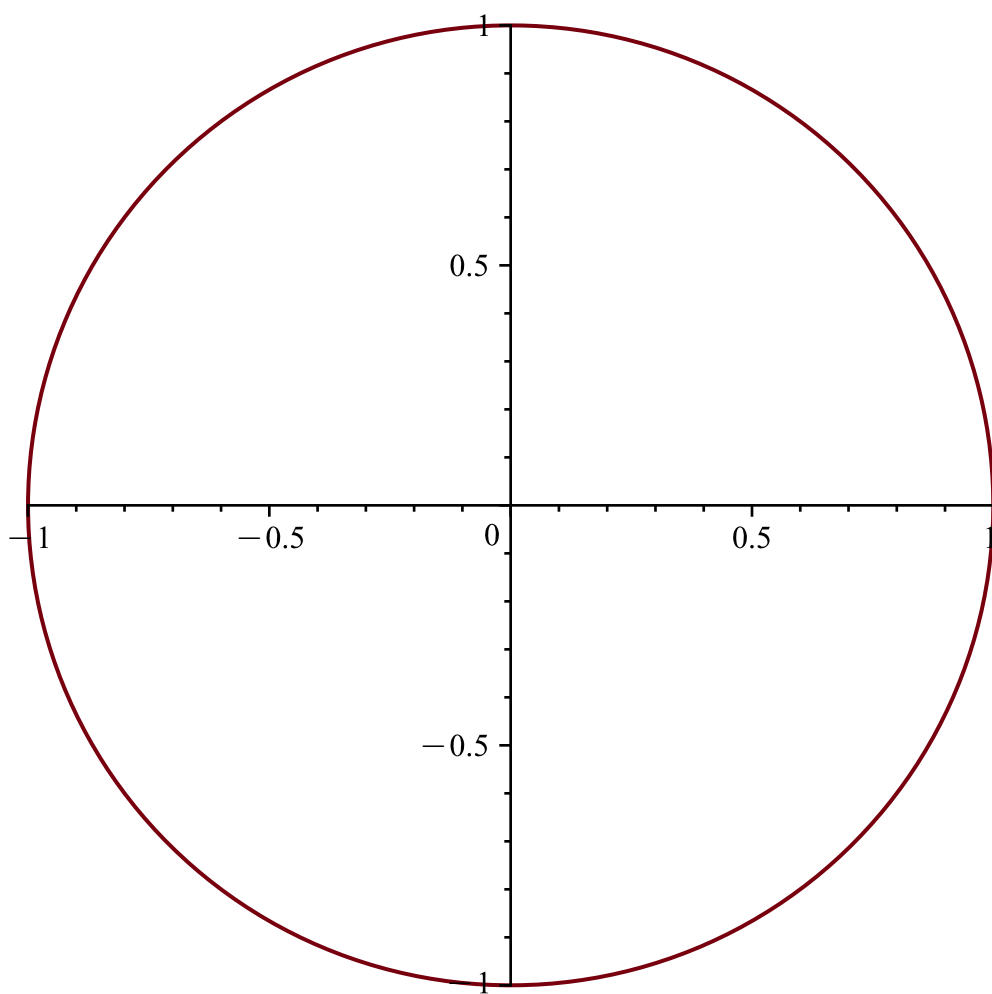
```
> plot([cos(t), sin(t), t=0..4·Pi])
```



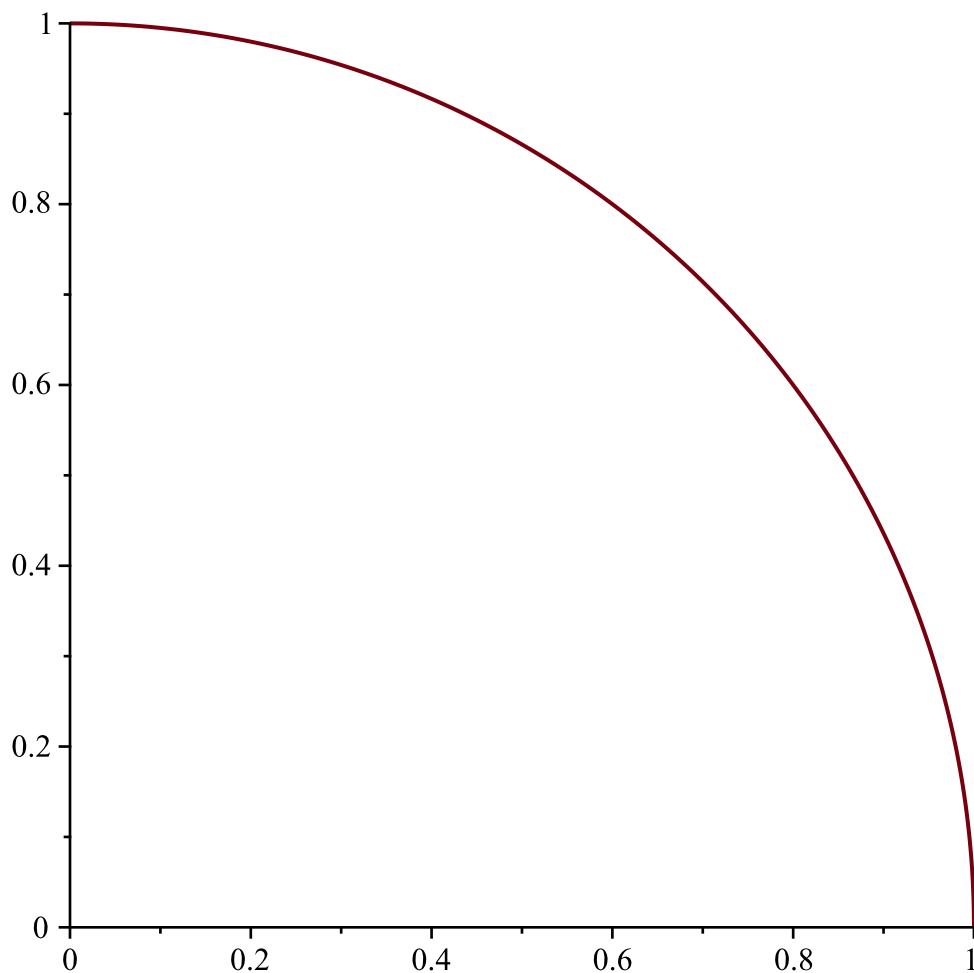
```
> plot\left(\left[2\cdot\cos\left(\frac{t}{3}\right),2\cdot\sin\left(\frac{t}{3}\right)\right]\right)
```

> $\text{plot}\left(\left[\cos(4 \cdot t), \sin(4 \cdot t), t=0 \dots \frac{\text{Pi}}{2}\right]\right)$



```
> plot([cos(4·t), sin(4·t), t=0.. $\frac{\text{Pi}}{8}$ ])
```



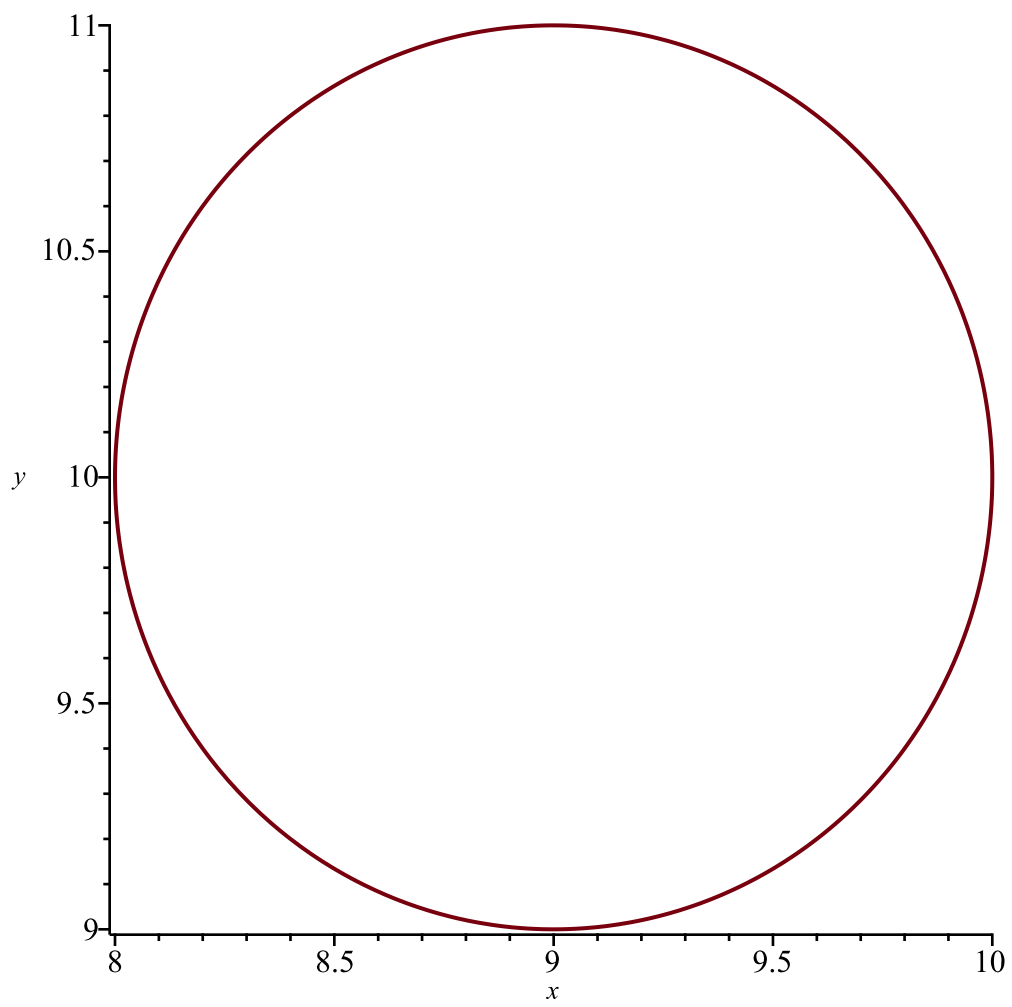
```
> with(plots)
```

```
[animate, animate3d, animatecurve, arrow, changecoords, complexplot, complexplot3d,
conformal, conformal3d, contourplot, contourplot3d, coordplot, coordplot3d, densityplot,
display, dualaxisplot, fieldplot, fieldplot3d, gradplot, gradplot3d, implicitplot, implicitplot3d,
inequal, interactive, interactiveparams, intersectplot, listcontplot, listcontplot3d,
listdensityplot, listplot, listplot3d, loglogplot, logplot, matrixplot, multiple, odeplot, pareto,
plotcompare, pointplot, pointplot3d, polarplot, polygonplot, polygonplot3d,
polyhedra_supported, polyhedraplot, rootlocus, semilogplot, setcolors, setoptions,
setoptions3d, shadebetween, spacecurve, sparsematrixplot, surfdata, textplot, textplot3d,
tubeplot]
```

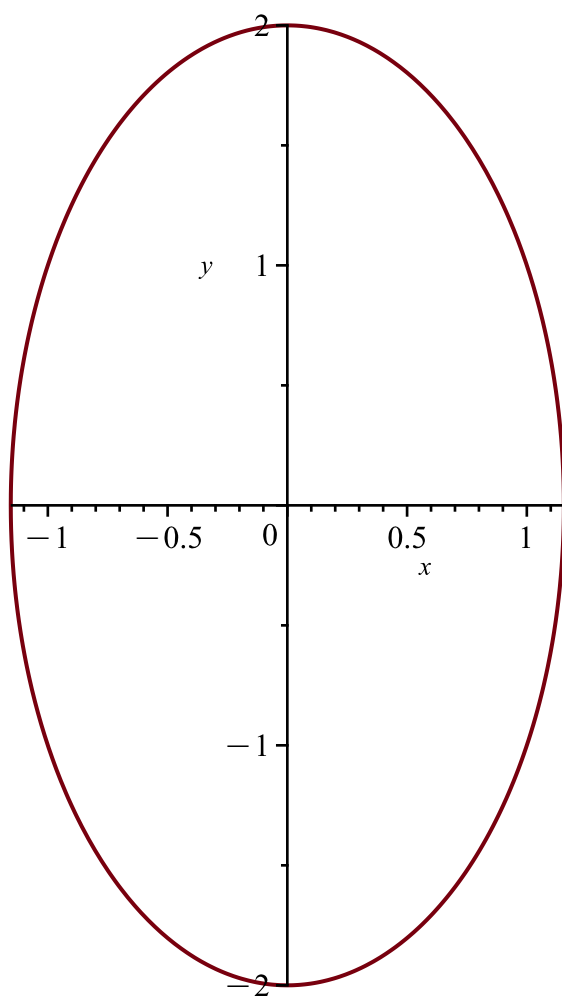
(49)

```
>
```

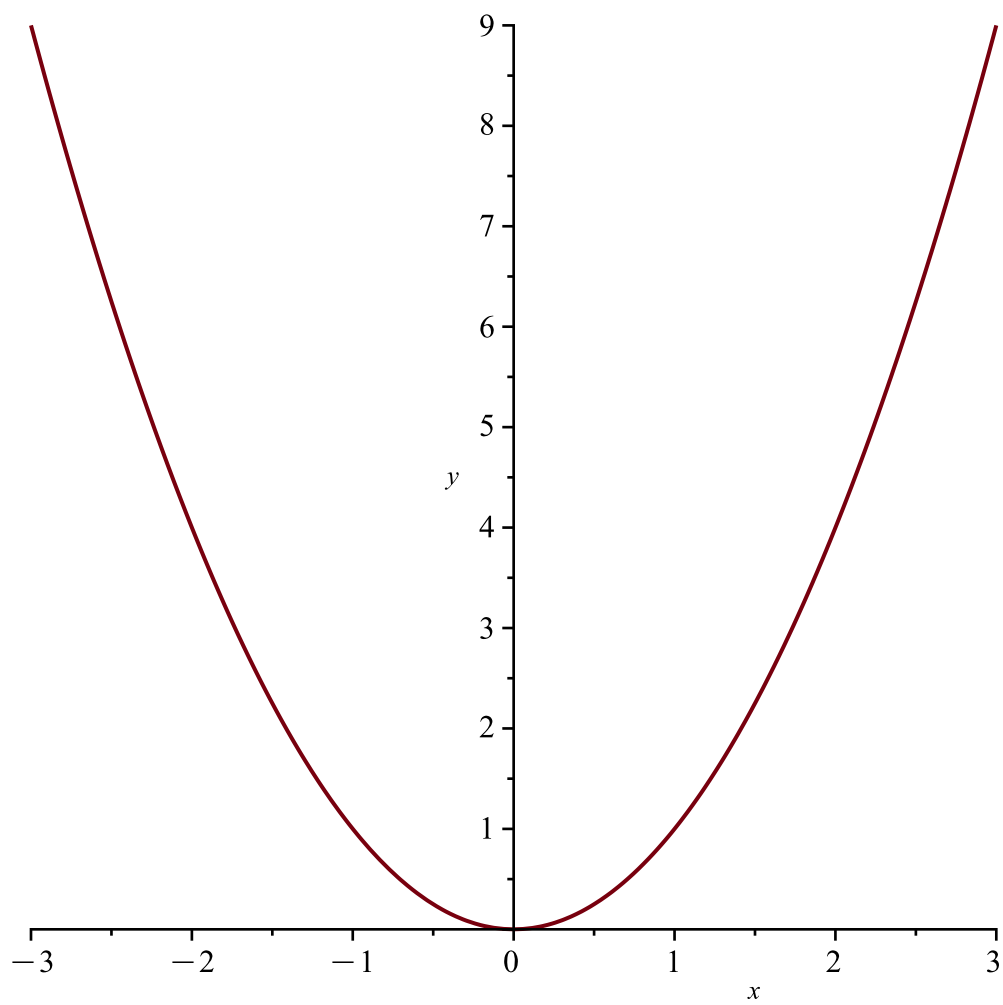
```
> implicitplot((x-9)^2 + (y-10)^2 = 1, x=5..15, y=2..15)
```



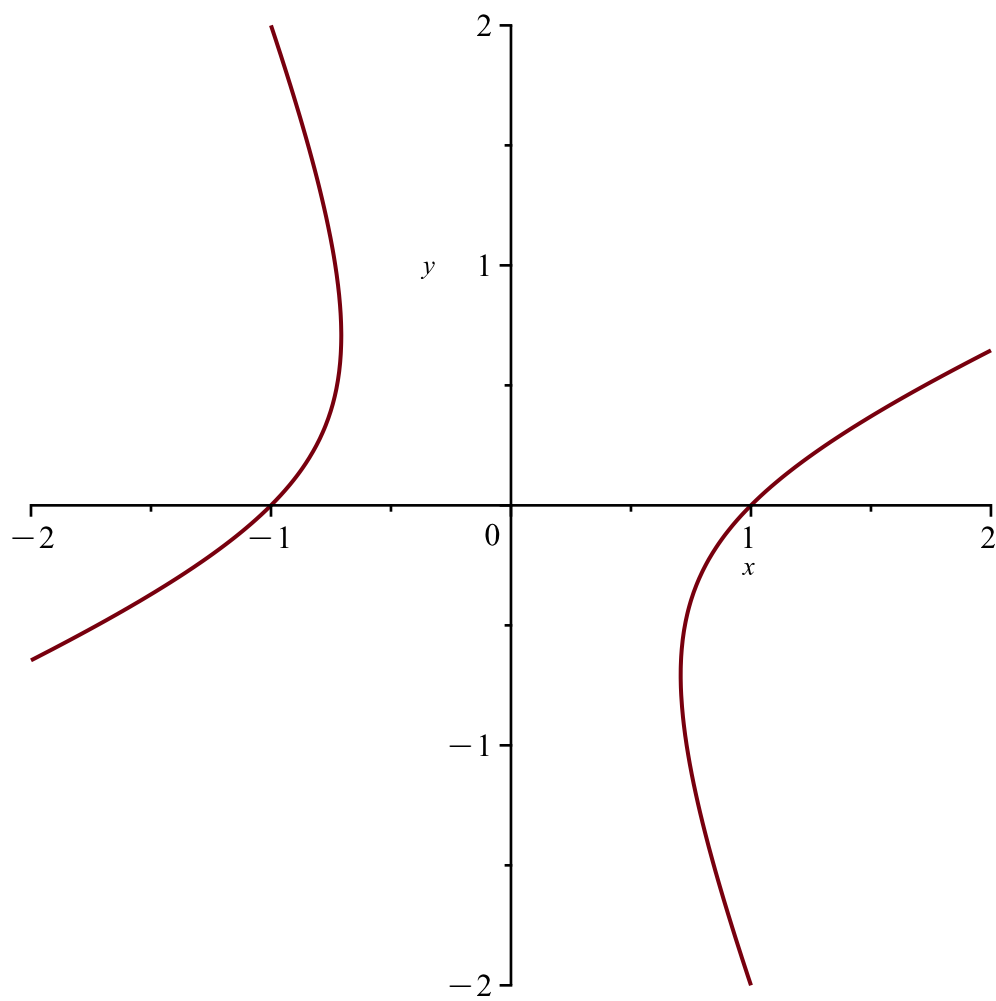
```
>  
=> implicitplot( $3 \cdot x^2 + y^2 = 4$ ,  $x = -3 \dots 3$ ,  $y = -3 \dots 3$ )
```



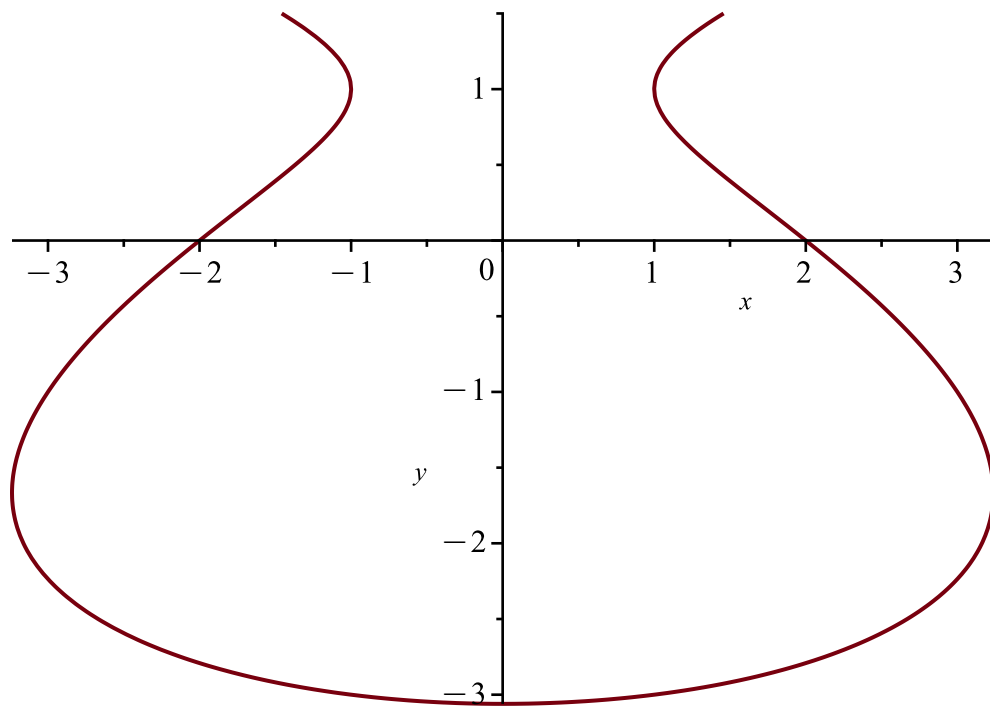
```
=  
> implicitplot( $y = x^2$ ,  $x = -3 \dots 3$ ,  $y = 0 \dots 10$ )
```



```
> implicitplot( $x^2 - 2 \cdot x \cdot y - y^2 = 1$ )
```



```
> implicitplot( $y^3 + y^2 - 5 \cdot y - x^2 = -4$ )
```



`> plot3d($x^2 + y^2$)`

