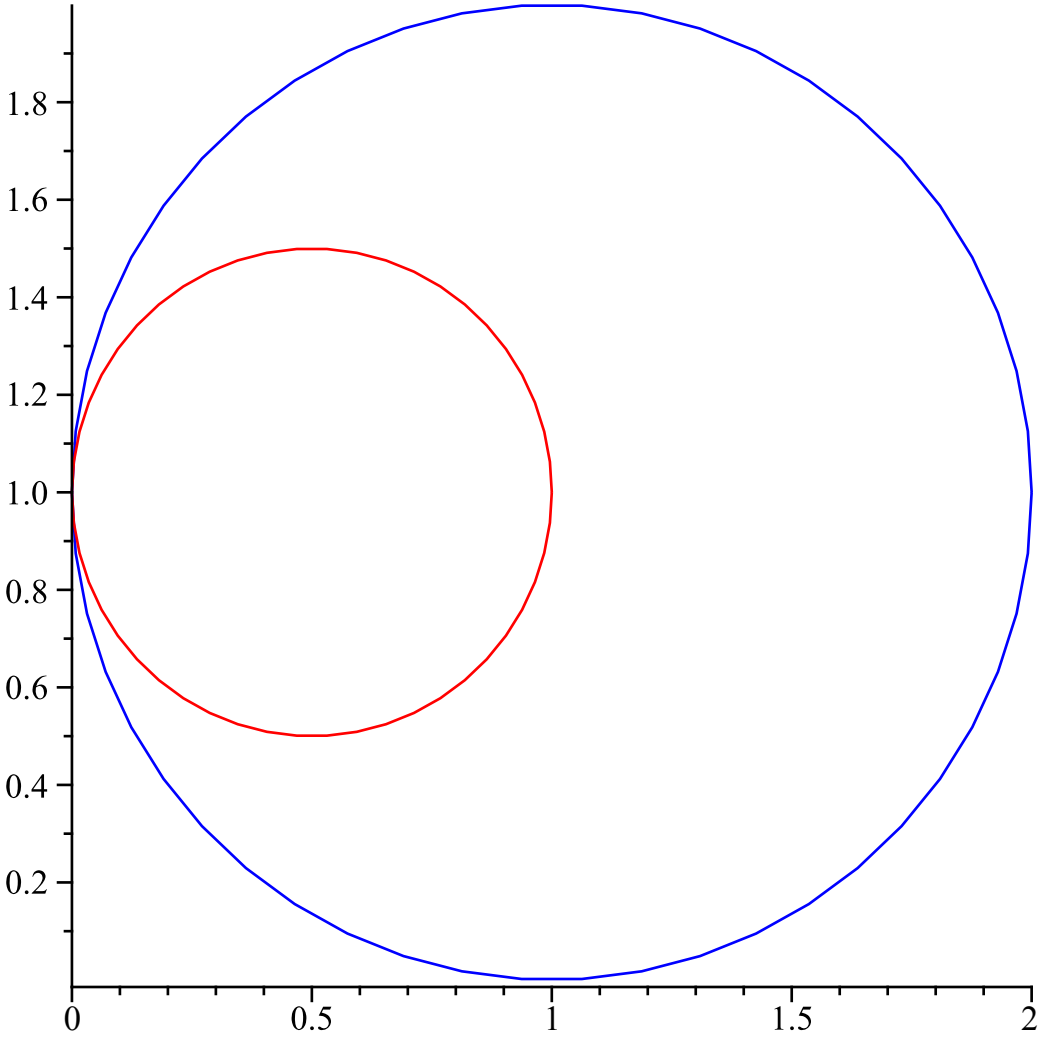
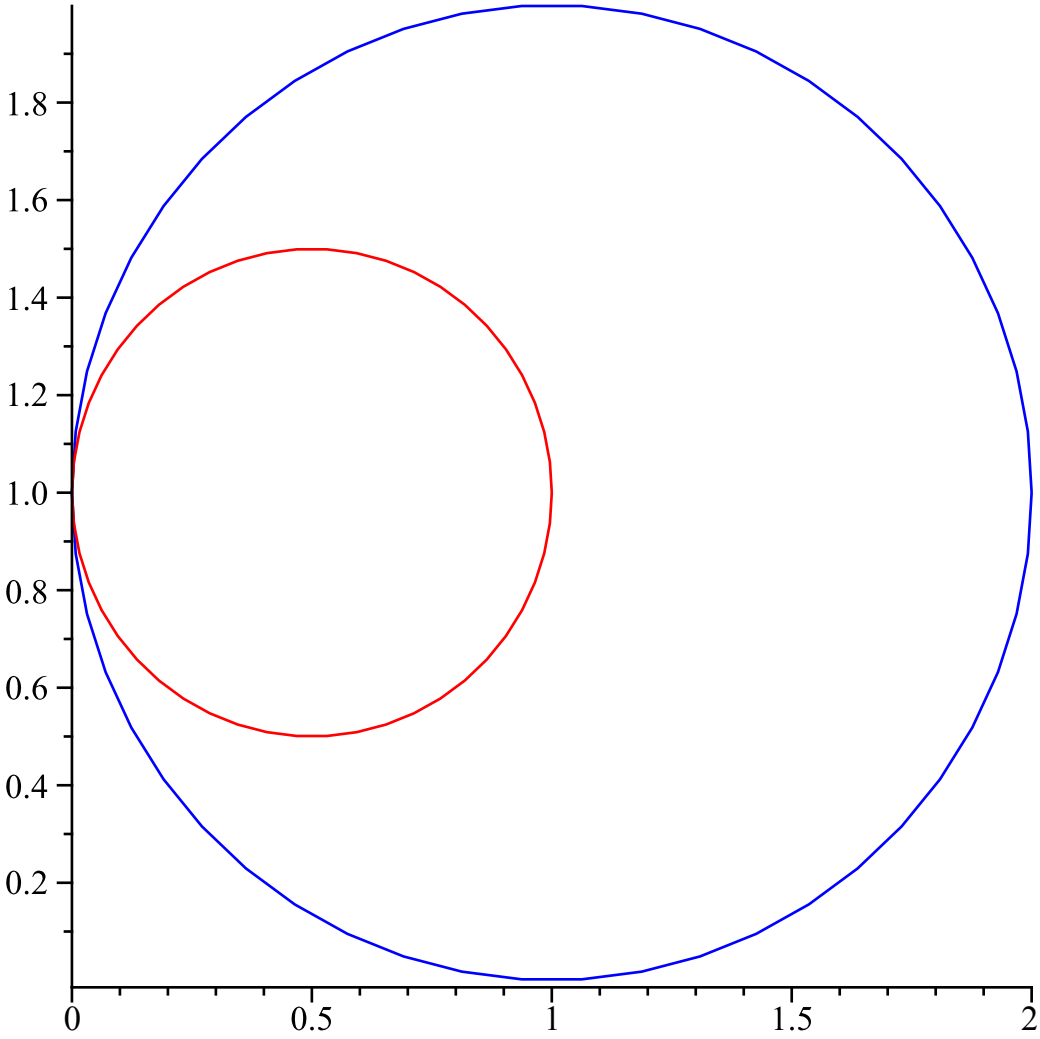
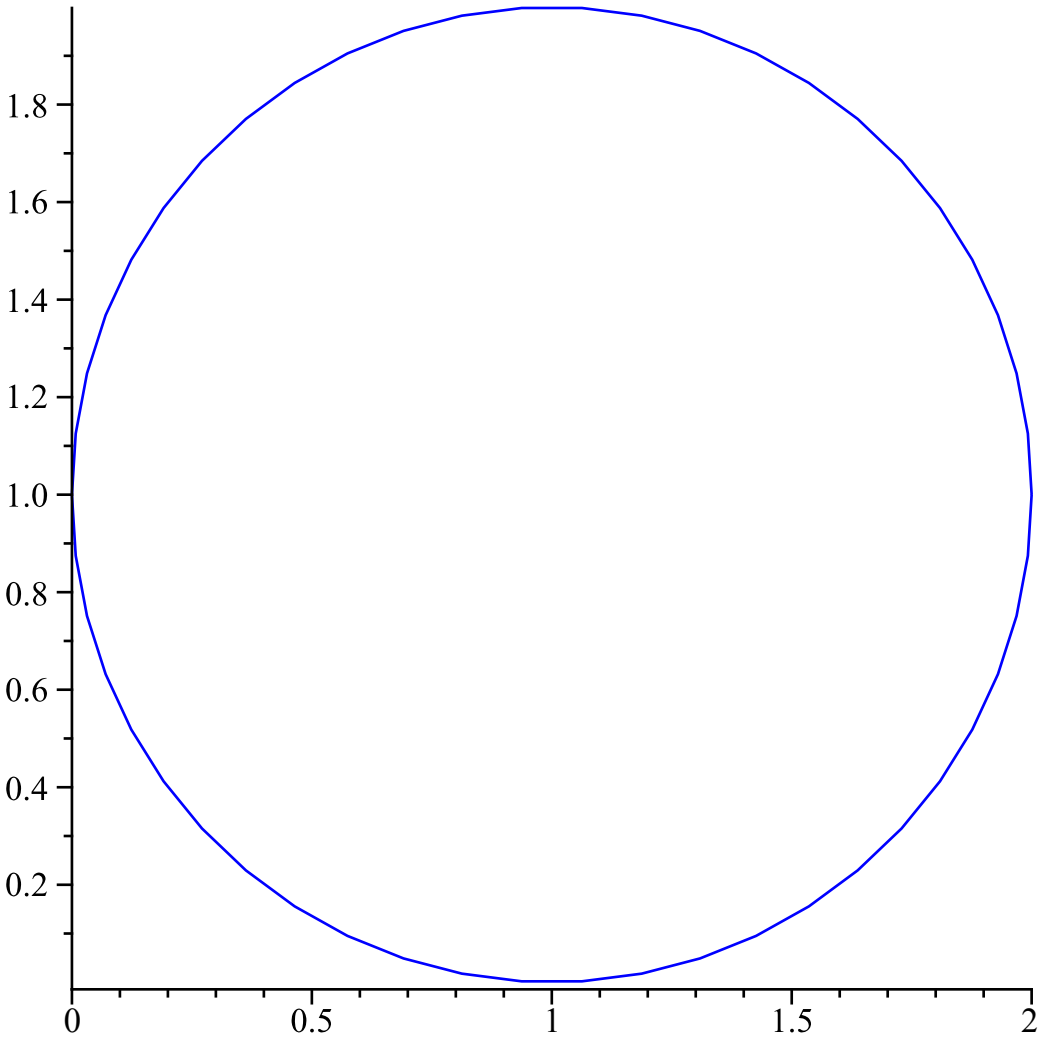
Jalaseh-4-G1

```
> with(plottools):
> c1 := circle([1,1], 1, color=blue):
  c2 := circle([1/2,1], 1/2, color=red):
> display(c1,c2);
```

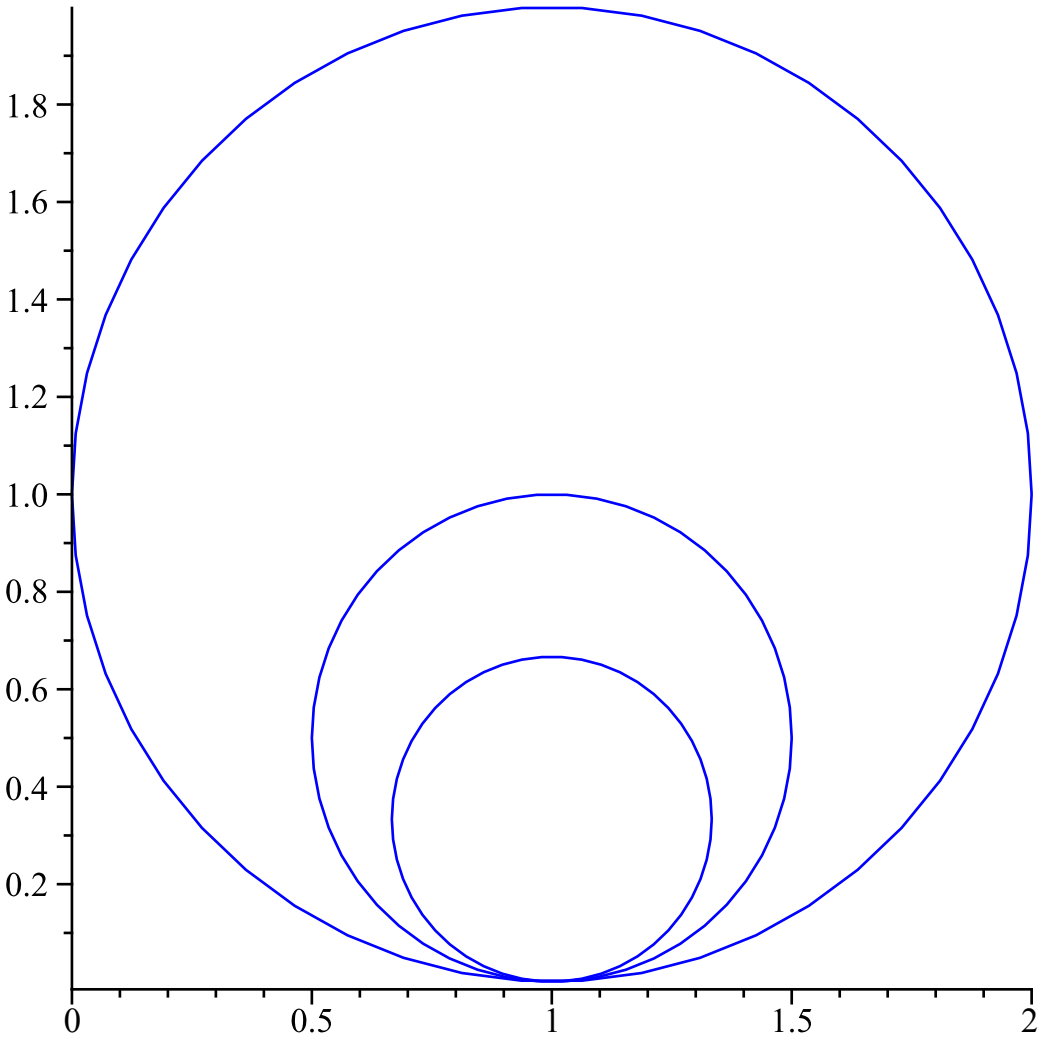




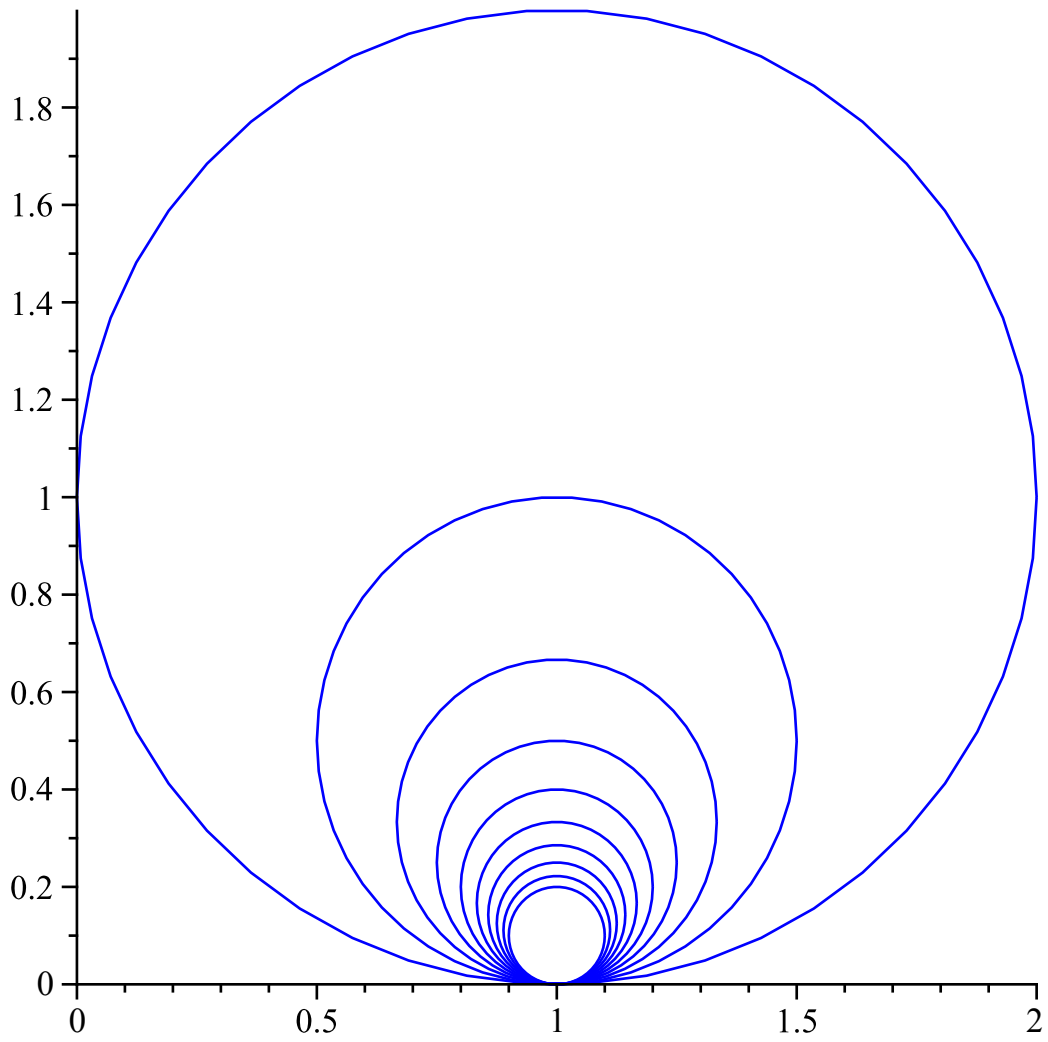

```
> for k from 1 to 10 do
  c[k]:=circle([1,1/k], 1/k, color=blue):
  od:
> display(c[1]);
```



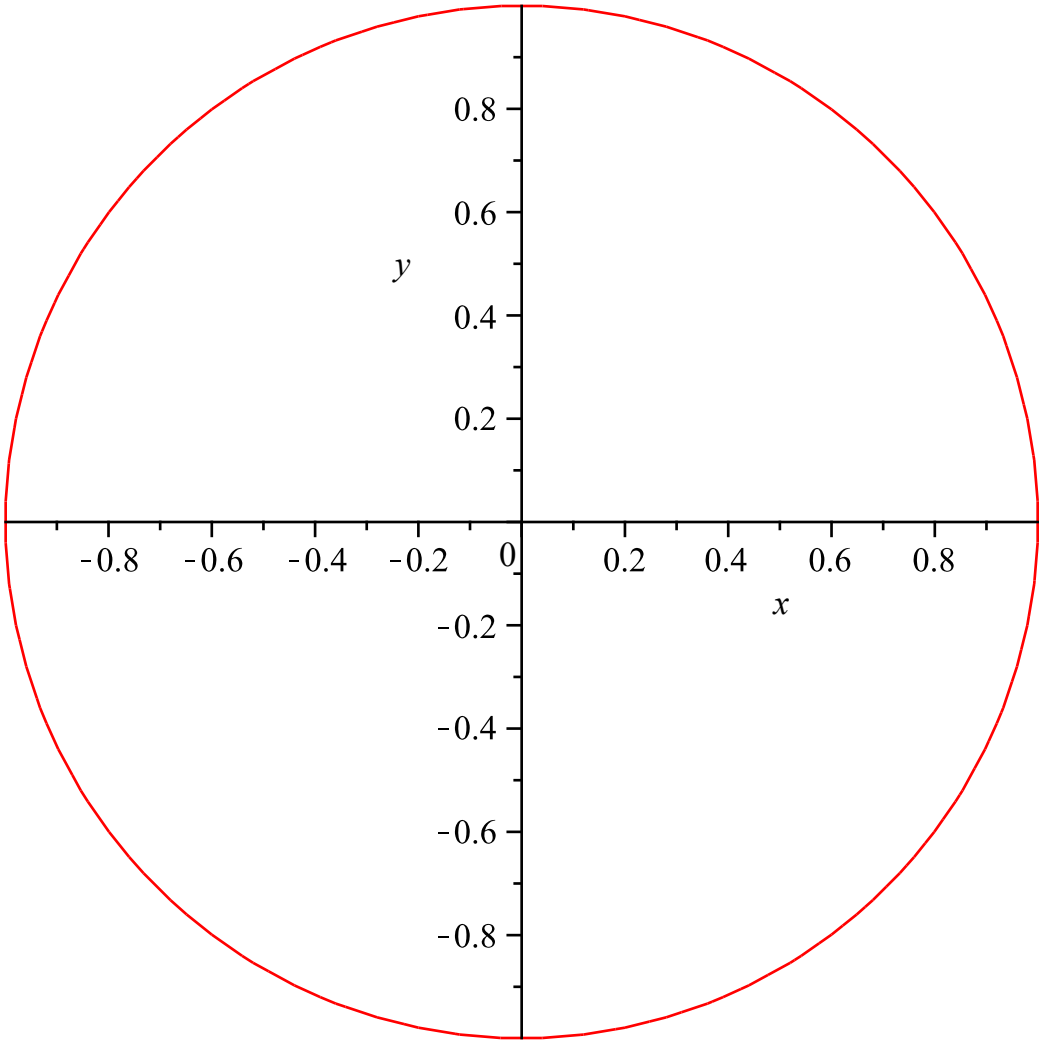

```
> display(c[1], c[2], c[3]);
```



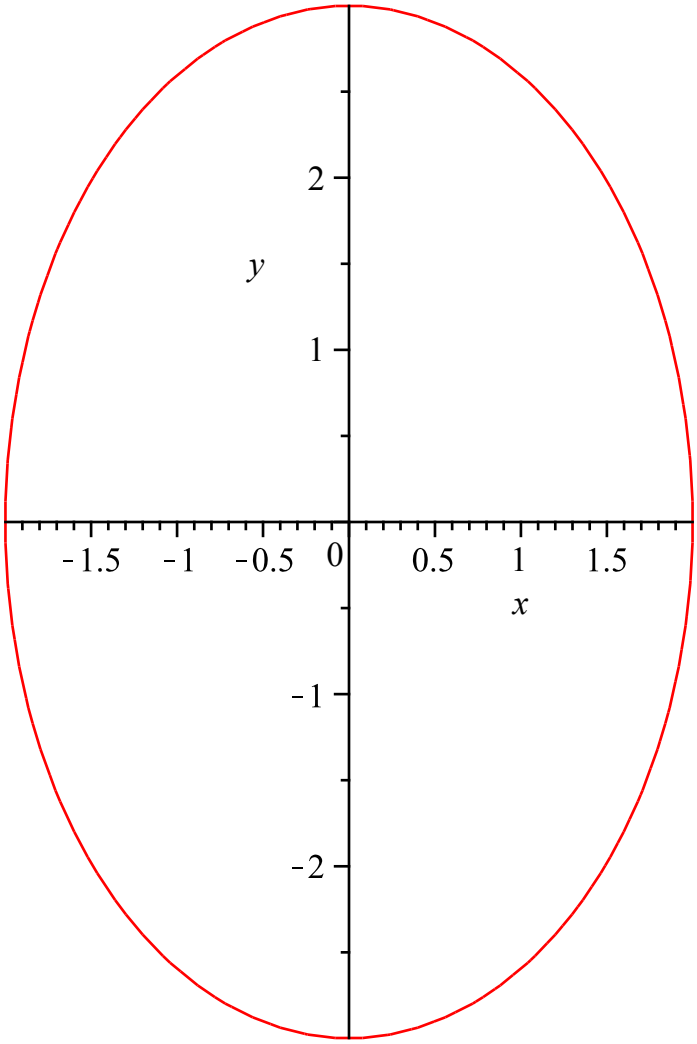

```
> display(seq(c[k], k = 1 ..10));
```



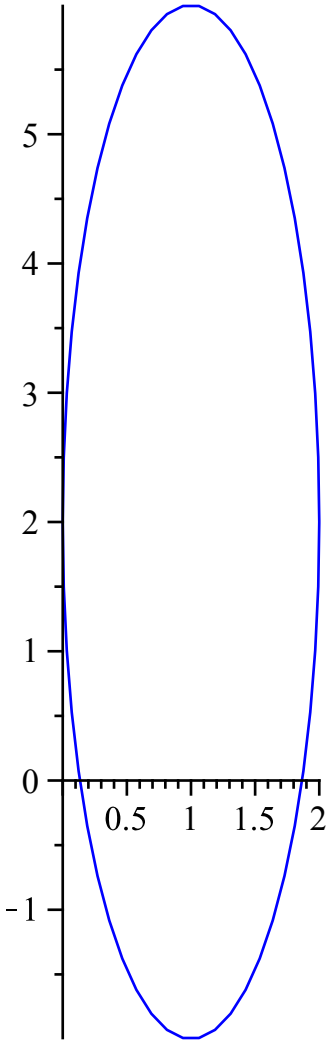
> $implicitplot\left(x^2+y^2=1,\ x=-1..1,\ y=-1..1\right);$



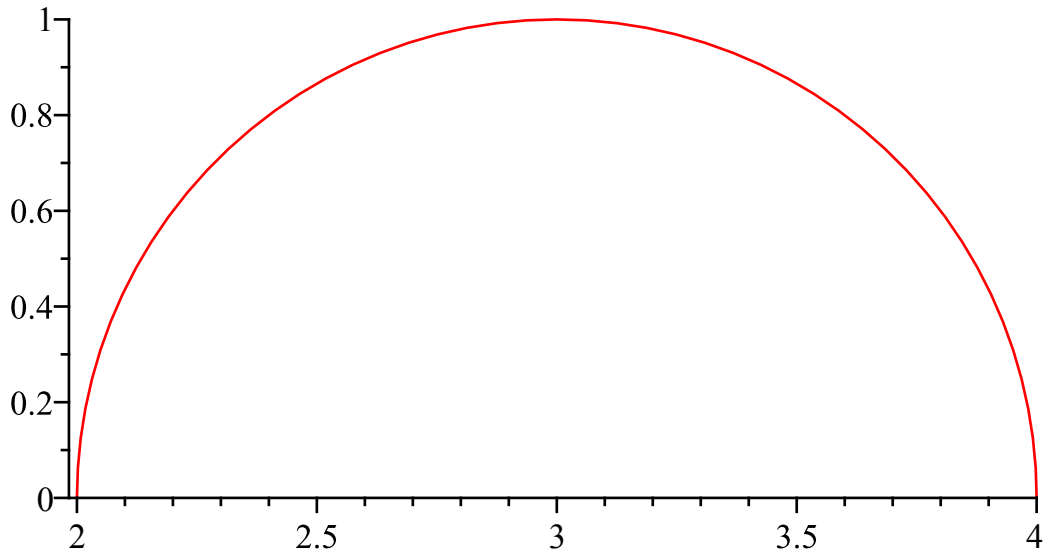
> $implicitplot\left(\frac{x^2}{4}+\frac{y^2}{9}=1, x=-2..2, y=-3..3, scaling=constrained\right);$



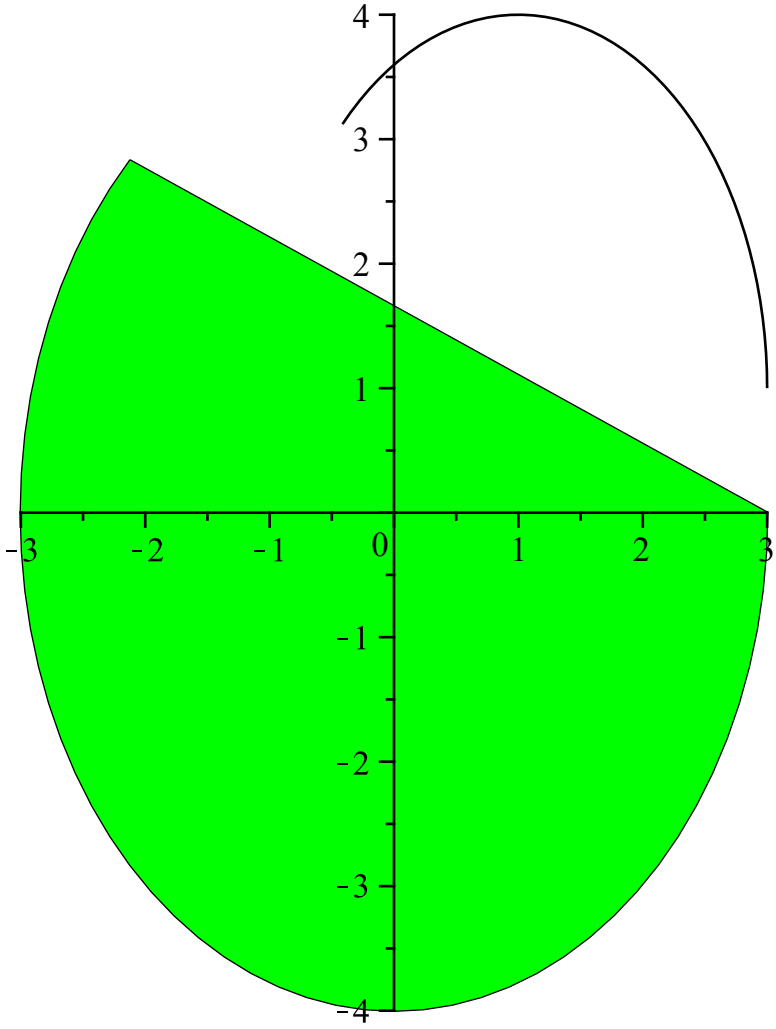

```
> with(plottools):
> e1 := ellipse([1, 2], 1 , 4 , color = blue):
> display(e1, scaling = constrained);
```




```
> a := arc([3, 0], 1, 0..Pi):
  display(a, color=red, scaling=constrained);
```




```
> c := ellipticArc([1,1], 2, 3, 0..3*Pi/4):
  d := ellipticArc([0,0], 3, 4, 3*Pi/4..2*Pi, filled=true, color=
  green):
> display(c, d, scaling=constrained);
```



> $Limit(\sin(x)/x,\ x=0)=\ limit(\sin(x)/x,\ x=0);$

$$\lim_{x\to 0}\left(\frac{\sin(x)}{x}\right)=1 \qquad (1)$$

> $Limit\left(\frac{(y-4\cdot sqrt(y+3))}{(y^2-1)}, y=1, left\right)=\ limit\left(\frac{(y-4\cdot sqrt(y+3))}{(y^2-1)}, y=1, left\right);$

$$\lim_{y\to 1-}\left(\frac{y-4\sqrt{y+3}}{y^2-1}\right)=\infty \qquad (2)$$

> $Limit\left(\frac{\left((1+h)^{\frac{1}{3}}-1\right)}{h}, h=0\right)=limit\left(\frac{\left((1+h)^{\frac{1}{3}}-1\right)}{h}, h=0\right);$

$$\lim_{h\to 0}\left(\frac{(1+h)^{(1/3)}-1}{h}\right)=\frac{1}{3} \qquad (3)$$

> $Limit\left(\frac{(root[3](1+h)-1)}{h}, h=0\right)=limit\left(\frac{(root[3](1+h)-1)}{h}, h=0\right);$

$$\lim_{h\to 0}\left(\frac{(1+h)^{(1/3)}-1}{h}\right)=\frac{1}{3} \qquad (4)$$

> $Limit(sqrt(x^2+2\cdot x)+x, x=-infinity)=limit(sqrt(x^2+2\cdot x)+x, x=-infinity);$

$$\lim_{x \to -\infty} \left(\sqrt{x^2 + 2x} + x \right) = -1 \qquad \textbf{(5)}$$