```
> y:=x->x^2;
```
$$y := x \to x^2$$

```
> y(2);
```
$$4$$

```
> f:=(x,y)->x^3-3*x*y^2;
```
$$f := (x, y) \to x^3 - 3\,x\,y^2$$

```
> s:=x-> if x<1 then -1 elif x=1 then 0 else 1 fi;
```
$$s := x \to \textbf{if } x < 1 \textbf{ then } -1 \textbf{ elif } x = 1 \textbf{ then } 0 \textbf{ else } 1 \textbf{ end if}$$

```
> s:=x->piecewise(x<1,-1,x=1,0,x>1,1);
```
$$s := x \to piecewise(x < 1, -1, x = 1, 0, 1 < x, 1)$$

```
> vzorec:=(b^2*x^2*sin(b*x)-2*sin(b*x)+2*b*x*cos(b*x)*a*t)/b^3:
> F:=unapply(vzorec, x, t);
```
$$F := (x, t) \to \frac{b^2\,x^2 \sin(b\,x) - 2\,\sin(b\,x) + 2\,b\,x\cos(b\,x)\,a\,t}{b^3}$$

```
> map(x->x^2, a+b+c);
```
$$a^2 + b^2 + c^2$$

```
> eqn:=(x-1)*(x^2+x+1);
```
$$eqn := (x - 1)\,(x^2 + x + 1)$$

```
> sol:=solve(eqn, x);
```
$$sol := 1,\ -\frac{1}{2} + \frac{1}{2}\,I\sqrt{3},\ -\frac{1}{2} - \frac{1}{2}\,I\sqrt{3}$$

```
> eval(eqn, x=sol[1]);expand(eval(eqn, x=sol[2]));
```
$$0$$
$$0$$

```
> solve({x+2*y=3, y+1/x=1}, {x,y});
```
$$\{x = -1, y = 2\},\ \left\{x = 2, y = \frac{1}{2}\right\}$$

```
> solve(x^3+4*x^2+2*x-1>0, {x});
```
$$\left\{-\frac{3}{2} - \frac{1}{2}\sqrt{13} < x,\ x < -1\right\},\ \left\{-\frac{3}{2} + \frac{1}{2}\sqrt{13} < x\right\}$$

```
> r:=x^7-2*x^6-4*x^5-x^3+x^2+6*x+4;
```
$$r := x^7 - 2\,x^6 - 4\,x^5 - x^3 + x^2 + 6\,x + 4$$

```
> fsolve(r);
```
$$-1.236067977,\ 1.167303978,\ 3.236067977$$

```
> fsolve(r, x,complex):
> fsolve(r,x,0..2);
```
$$1.167303978$$

```
> fsolve(sin(x), x=3);
```
$$3.141592654$$

(%i1) y(x):=x^2;

(%o1) $y(x):=x^2$

(%i2) y(2);

(%o2) 4

(%i3) f(x,y):=x^3-3*x*y^2;

(%o3) $f(x,y):=x^3-3\,x\,y^2$

(%i5) s(x):=(if x<1 then -1 elseif x=1 then 0 else 1);

(%o5) $s(x):=$ if $x<1$ then -1 elseif $x=1$ then 0 else 1

(%i26) vzorec:(b^2*x^2*sin(b*x)-2*sin(b*x)+2*b*x*cos(b*x)*a*t)/b^3$

(%i8) define(F(x,t), vzorec);

(%o8) $F(x,t):=\dfrac{b^2\,x^2\,\sin(b\,x)-2\,\sin(b\,x)+2\,a\,b\,t\,x\,\cos(b\,x)}{b^3}$

(%i9) map(lambda([x], x^2), a+b+c);

(%o9) $c^2+b^2+a^2$

(%i10) eqn:(x-1)*(x^2+x+1);

(%o10) $(x-1)\left(x^2+x+1\right)$

(%i11) sol:solve(eqn,x);

(%o11) $[\,x=-\dfrac{\sqrt{3}\,\%i+1}{2}\,,\,x=\dfrac{\sqrt{3}\,\%i-1}{2}\,,\,x=1\,]$

(%i12) ev(expand(eqn), sol[1]);ev(expand(eqn), sol[2]);

(%o12) 0

(%o13) 0

(%i14) s:solve([x+2*y=3, y+1/x=1], [x,y]);

(%o14) $[\,[\,x=-1\,,\,y=2\,]\,,\,[\,x=2\,,\,y=\dfrac{1}{2}\,]\,]$

(%i29) load(solve_rat_ineq)$

(%i16) solve_rat_ineq(x^3+4*x^2+2*x-1>0);

 0 errors, 0 warnings

(%o16) $[\,[\,x>-\dfrac{\sqrt{13}+3}{2}\,,\,x<-1\,]\,,\,[\,x>\dfrac{\sqrt{13}-3}{2}\,]\,]$

(%i17) r:x^7-2*x^6-4*x^5-x^3+x^2+6*x+4;

(%o17) $x^7 - 2\,x^6 - 4\,x^5 - x^3 + x^2 + 6\,x + 4$

(%i20) realroots(r);

(%o20) $[\,x = -1.236067980527878\,,\,x = 1.167303949594498\,,\,x = 3.236067980527878\,]$

(%i27) allroots(r)\$

(%i22) find_root(r,x,0,2);

(%o22) 1.167303978261419

(%i28) load(mnewton)\$

(%i24) mnewton(sin(x),x,3);

(%o24) $[\,[\,x = 3.141592653589793\,]\,]$