

```

> restart;
f := 3-x^2+2*x*y;
f := -x^2 + 2 x y + 3
=
> a := int( g(x)*exp(x), x );
a := ∫ g(x) e^x dx
=
> whattype(f);
`+`
=
> type(f,`+`);
true
=
> whattype(a);
function
=
> type(a,`+`);
false
=
> nops(f);
3
=
> op(1,f);
-x^2
=
> for i to 3 do op(i,f) od;
-x^2
2 x y
3
=
> op(0,f);
`+`
=
> h := op(2,f);
h := 2 x y
=
> whattype(h);
`*`
=
> nops(h);
3
=
> op(1,h);
2
=
> op(2,h);
x
=
> h := op(1,f);
h := -x^2
=
> whattype(h);
`*`
=
> op(1,h);
-1
=
> op(2,h);
x^2
=
> h := x^2;

```

$$h := x^2$$

```
> whattype(h);
```

x^2

```
> op(0,h);
```

x^2

```
> op(1,h);
```

x

```
> whattype(op(1,h));
```

symbol

```
> op(2,h);
```

2

```
> whattype(op(2,h));
```

integer

```
> a;
```

$$\int g(x) e^x dx$$

```
> op(0,a);
```

int

```
> nops(a);
```

2

```
> op(1,a);
```

$$g(x) e^x$$

```
> op(2,a);
```

x

```
> L := Limit( exp(-x), x=infinity );
```

$$L := \lim_{x \rightarrow \infty} e^{-x}$$

```
> whattype(L);
```

function

```
> op(0,L);
```

Limit

```
> op(1,L);
```

$$e^{-x}$$

```
> e := op(2,L);
```

$$e := x = \infty$$

```
> whattype(e);
```

∞

```
> nops(e);
```

2

```
> op(1,e);
```

x

```
> op(2,e);
```

∞