

```

> p:=x^5+3*x^4-4*x-12;
      p := x5 + 3 x4 - 4 x - 12
> factor(p);
      (x + 3)(x2 + 2)(x2 - 2)
> irreduc(p);
      false
> irreduc(p+1);
      true
> factor(p, 2^(1/2));
      (x2 + 2)(x + √2)(x - √2)(x + 3)
> factor(p, (-2)^(1/2));
      (x2 - 2)(x - √-2)(x + √-2)(x + 3)
> factor(p, {2^(1/2), (-2)^(1/2)});
      (x - I√2)(x + I√2)(x + √2)(x - √2)(x + 3)
> factor(p, {2^(1/2), I});
      (x - I√2)(x + I√2)(x + √2)(x - √2)(x + 3)
> factor(p, {2^(1/2), (3)^(1/2)});
      (x2 + 2)(x + √2)(x - √2)(x + 3)
> factor(p, I);
      (x + 3)(x2 + 2)(x2 - 2)
> factor(p, real);
      (x + 3.)(x + 1.414213562)(x - 1.414213562)(x2 + 1.999999999)
> factor(p, complex);
      (x + 3.)(x + 1.414213562)(x + 1.414213562 I)
      (x - 1.414213562 I)(x - 1.414213562)
> Factor(p) mod 2;

```

$$x^4(x+1)$$

```
> Factor(p) mod 3;
```

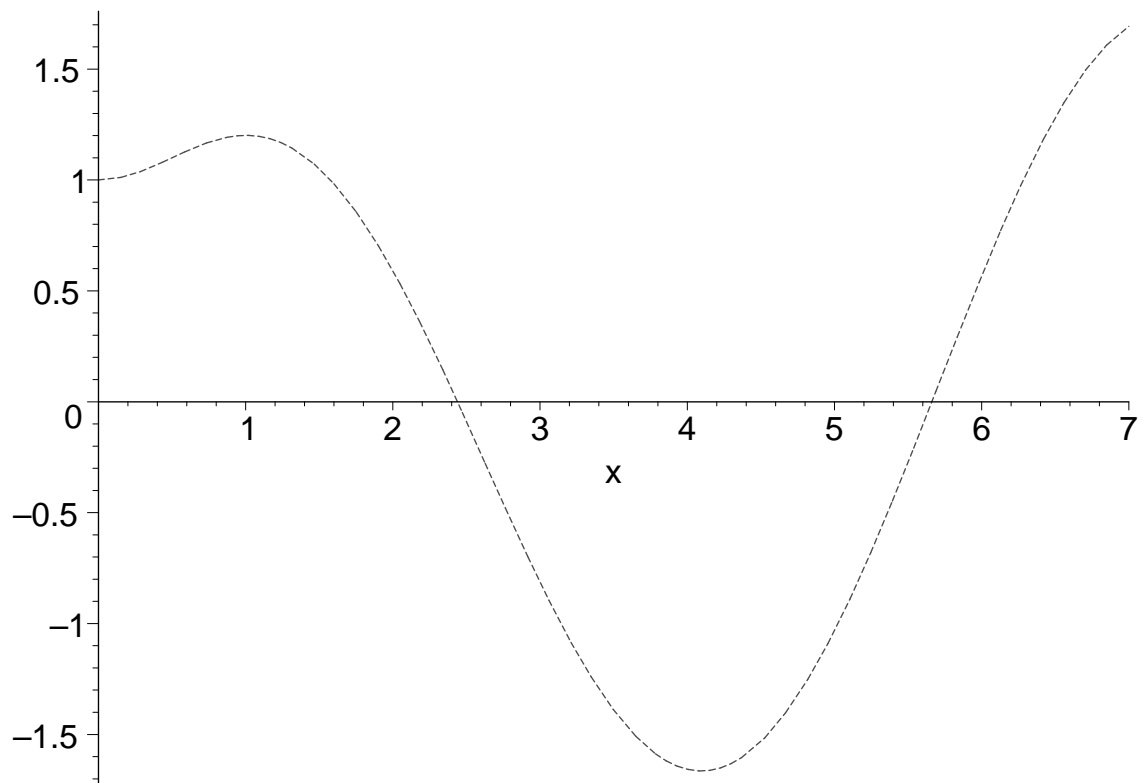
$$(x+2)x(x+1)(x^2+1)$$

```
> Factor(p) mod 5;
```

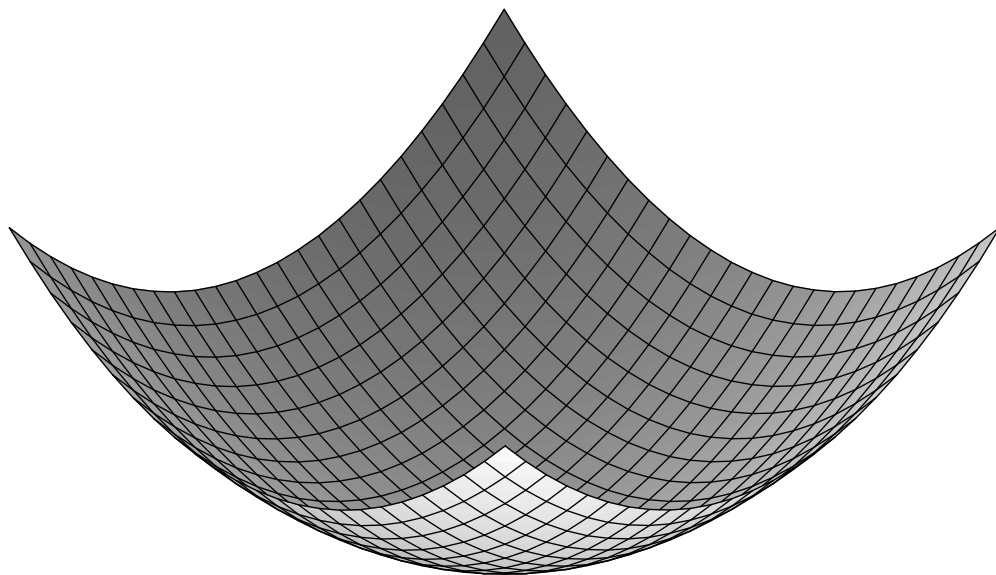
$$(x^2+2)(x^2+3)(x+3)$$

```
>
```

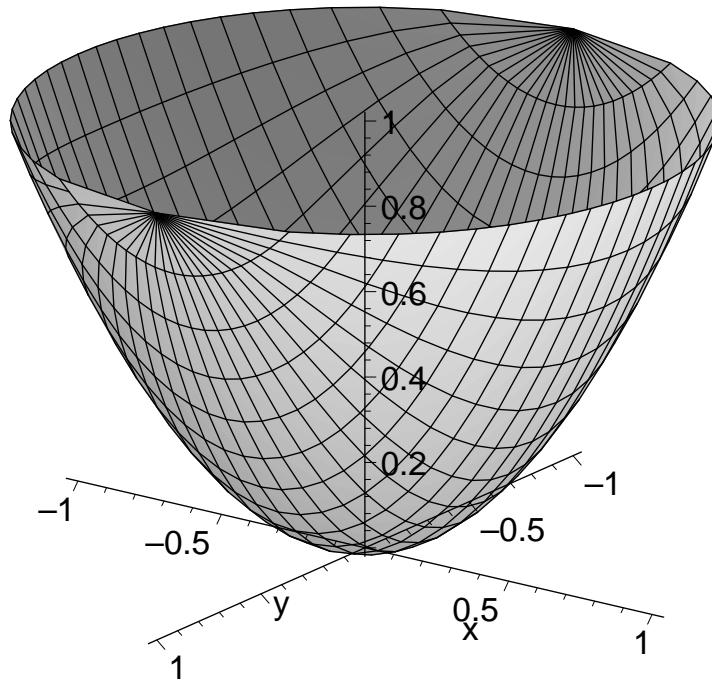
```
> plot(sin(x)*arctan(x)+cos(x),x=0..7);
```



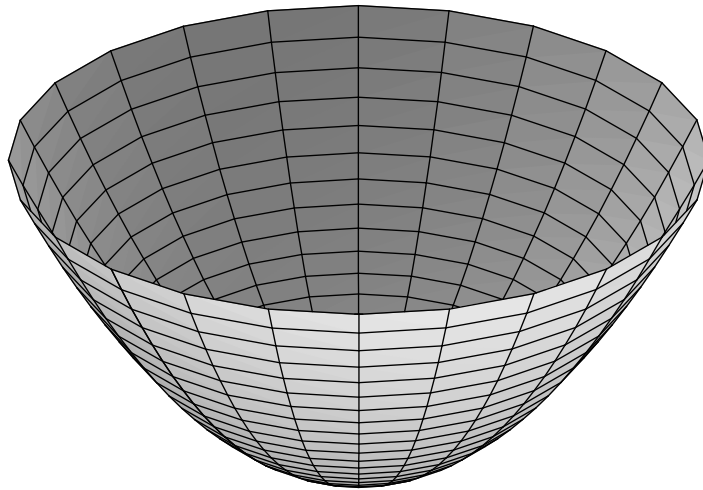
```
> plot3d(x^2+y^2,x=-1..1,y=-1..1);
```



```
> plot3d(x^2+y^2,x=-1..1,y=-sqrt(1-x^2)..sqrt(1-x^2));
```



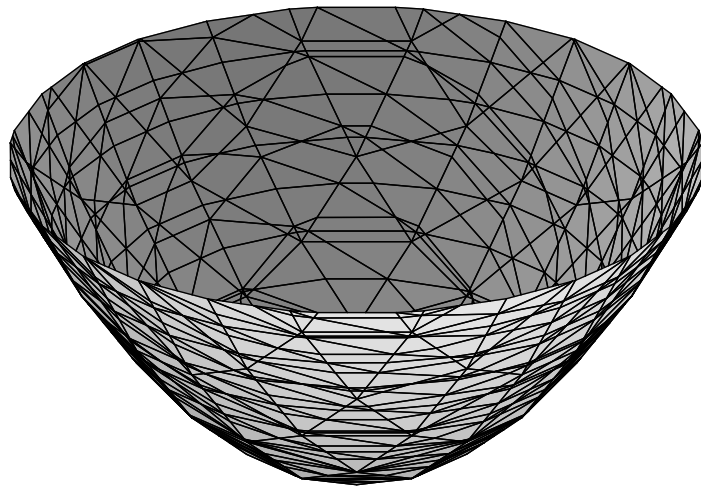
```
> plot3d([r,phi,r^2],r=0..1,phi=0..2*Pi,coord  
s=cylindrical);
```



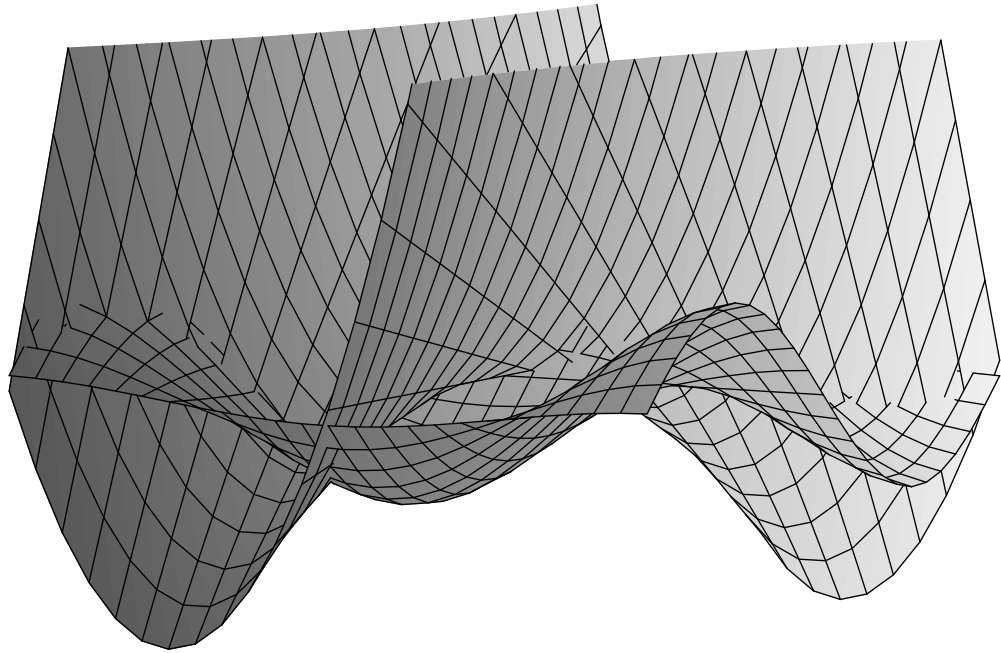
```
> with(plots):
```

```
Warning, the name changecoords has been redefined
```

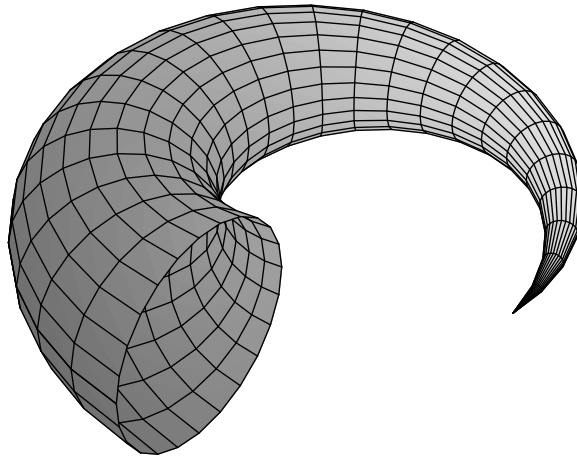
```
> implicitplot3d(z=x^2+y^2,x=-1..1,y=-1..1,z=0..1);
```



```
> plot3d({x^2-y*x,cos(x)*sin(y)},x=-3..3,y=-3  
..3,view=-3..3);
```



```
> horn := [(8+s*cos(t))*cos(s), (8+s*cos(t))*sin(s), s*sin(t)];  
      horn := [(8 + s cos(t)) cos(s), (8 + s cos(t)) sin(s), s sin(t)]  
> plot3d(horn, t=0..2*Pi, s=0..3*Pi/2);
```



```
> animate3d([(8+a*s*cos(t))*cos(s), (8+a*s*cos  
(t))*sin(s), a*s*sin(t)], t=0..2*Pi, s=0..3*Pi  
/2, a=0.5..2, frames=50);
```