Graph for Example 2 in the text (Section 2.4). Existence and Uniqueness.

dy/dx = (3x^2+4x+2)/(2(y-1))

```
> with(plots):
> Y1:=y^2-2*y=x^3+2*x^2+2*x+C;
```

$$Y1 := y^2 - 2\,y = x^3 + 2\,x^2 + 2\,x + C \quad (1)$$

```
> solve(subs(x=0,y=1,Y1),C);
```

$$-1 \quad (2)$$

```
> Y1a:=subs(C=-1,Y1);
```

$$Y1a := y^2 - 2\,y = x^3 + 2\,x^2 + 2\,x - 1 \quad (3)$$

```
> solve(subs(x=0,y=-1,Y1),C);
```

$$3 \quad (4)$$

```
> Y1b:=subs(C=3,Y1);
```

$$Y1b := y^2 - 2\,y = x^3 + 2\,x^2 + 2\,x + 3 \quad (5)$$

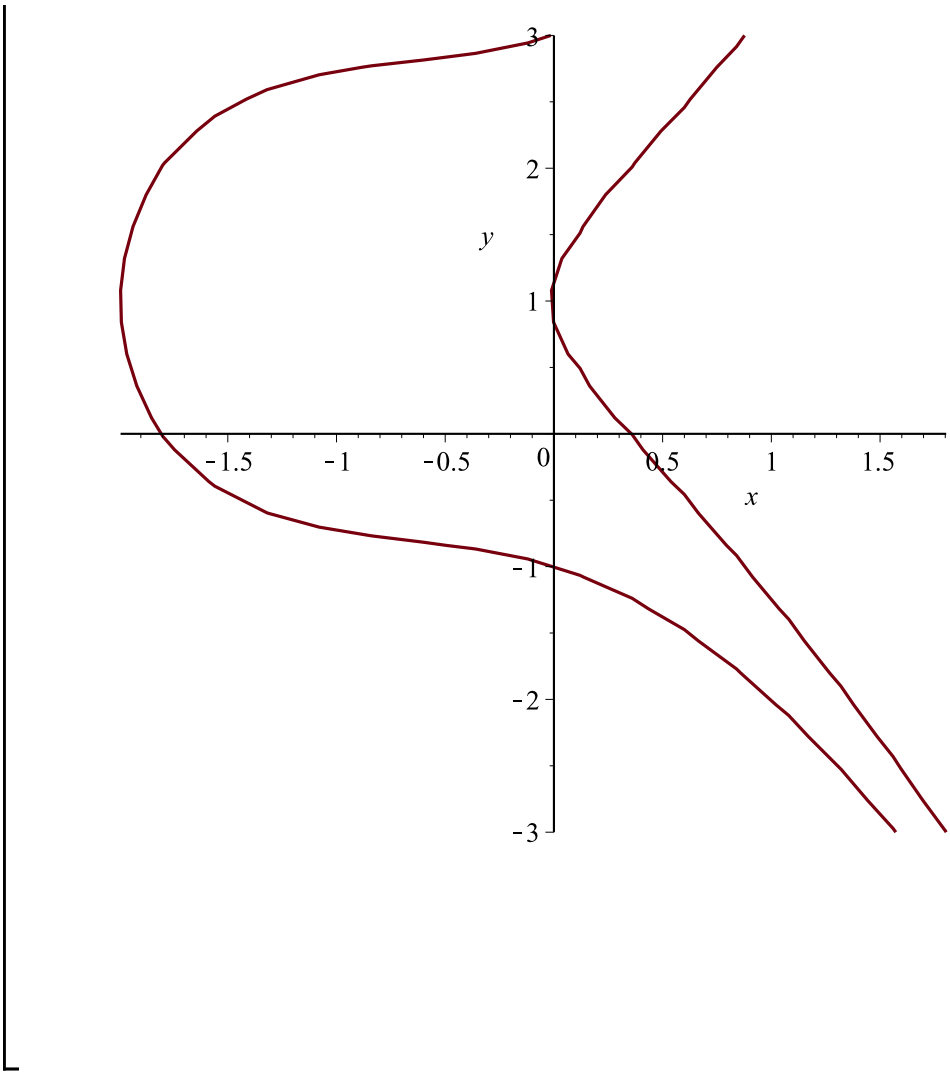
```
> A:=implicitplot(Y1a,x=-3..3,y=-3..3);
```

$$A := PLOT(\ldots) \quad (6)$$

```
> B:=implicitplot(Y1b,x=-3..3,y=-3..3);
```

$$B := PLOT(\ldots) \quad (7)$$

```
> display(A,B);
```


3
2
y
1
-1.5
-1
-0.5
0
0.5
1
1.5
x
-1
-2
-3