```
> with(DETools):
> sys := diff(x(t), t) = 5·x(t) + 3·y(t), diff(y(t), t) = 4·x(t) + 9·y(t); func := {x(t), y(t)};
```

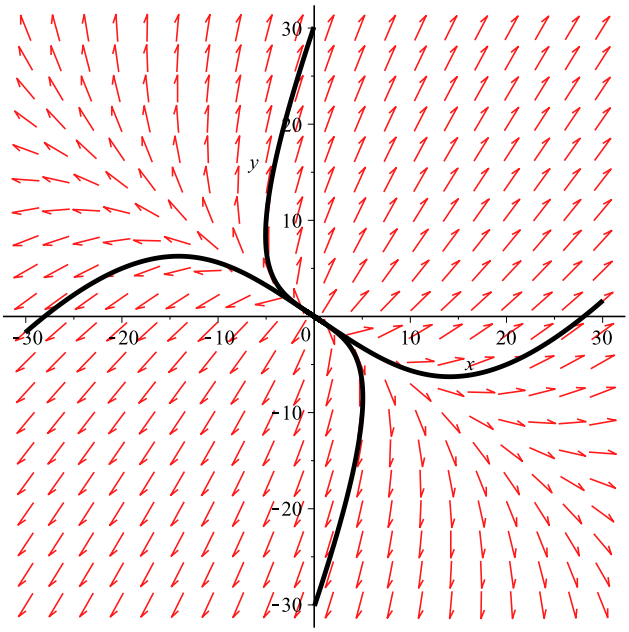
$$sys := \frac{d}{dt}x(t) = 5\,x(t) + 3\,y(t),\ \frac{d}{dt}y(t) = 4\,x(t) + 9\,y(t)$$

$$func := \{x(t), y(t)\} \tag{1}$$

```
> dsolve({sys}, func);
```

$$\left\{x(t) = \_C1\,e^{11\,t} + \_C2\,e^{3\,t},\ y(t) = 2\,\_C1\,e^{11\,t} - \frac{2}{3}\,\_C2\,e^{3\,t}\right\} \tag{2}$$

```
>
> DEplot({diff(x(t), t) = 5·x(t) + 3·y(t), diff(y(t), t) = 4·x(t) + 9·y(t)}, [x(t), y(t)], t =
    -10..10, x = -30..30, y = -30..30, [[x(0) = -5, y(0) = 10], [x(0) = 20, y(0) = -5], [x(0) =
    -20, y(0) = 5], [x(0) = 5, y(0) = -10], ], stepsize = 0.001, linecolor = black)
```




```
>
```