

Here is the graph for Exercise 10, Section 7.1:

```
> with(DEtools):
```

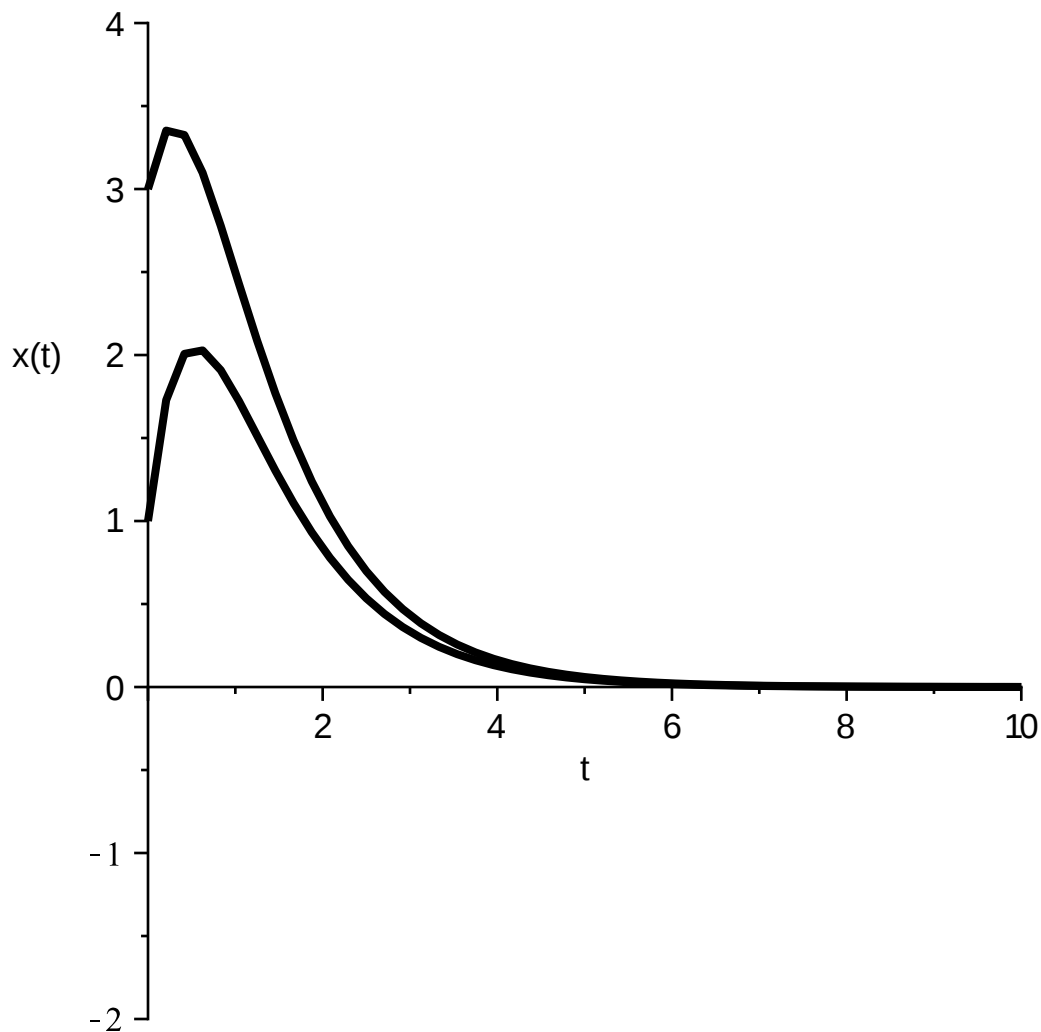
```
> Sys:= diff(x(t),t)=x(t)-2*y(t), diff(y(t),t)=3*x(t)-4*y(t);
```

$$\text{Sys} := \frac{d}{dt} x(t) = x(t) - 2y(t), \frac{d}{dt} y(t) = 3x(t) - 4y(t) \quad (1)$$

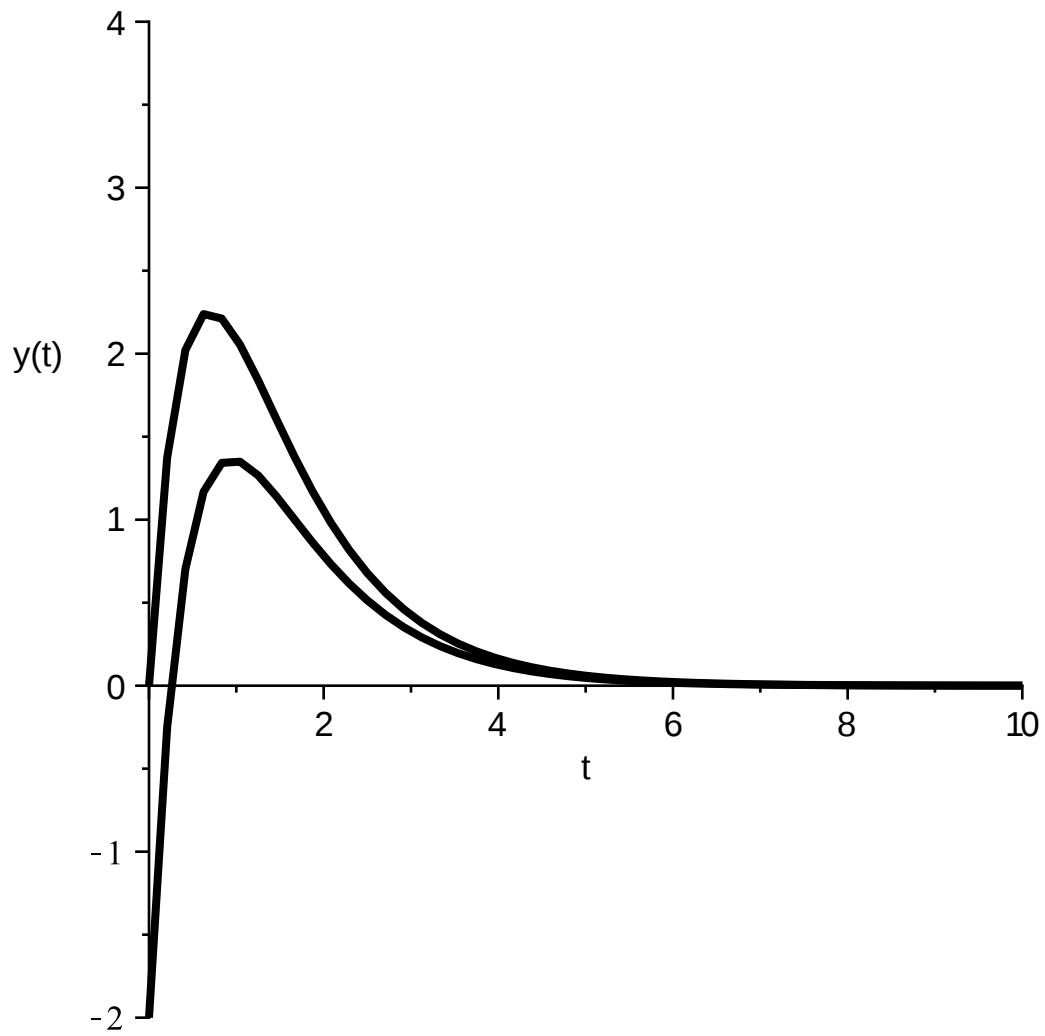
```
> ICs:=[[x(0)=1,y(0)=-2],[x(0)=3,y(0)=0]];
```

$$\text{ICs} := [[x(0) = 1, y(0) = -2], [x(0) = 3, y(0) = 0]] \quad (2)$$

```
> DEplot([Sys],[x(t),y(t)],t=0..10,ICs, x=-2..4,y=-2..4,linecolor=
black,scene=[t,x(t)]);
```



```
> DEplot([Sys],[x(t),y(t)],t=0..10,ICs, x=-2..4,y=-2..4,linecolor=
black,scene=[t,y(t)]);
```



```
> DEplot([Sys],[x(t),y(t)],t=0..10,ICs, x=-2..4,y=-2..4,linecolor=
black);
```

