

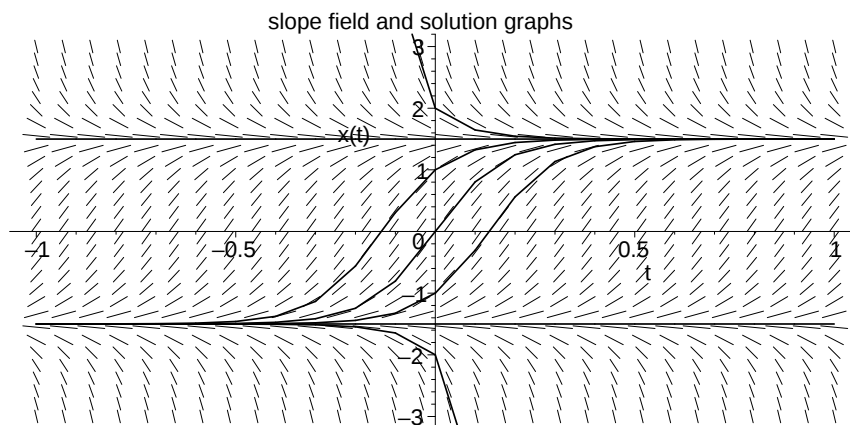
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[ >
[ >
[ > restart:with(plots):with(DEtools):
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Warning, the name changecoords has been redefined

2.1.4)

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[ > deqtn:=diff(x(t),t)=9-4*x(t)^2: #4 section 2.1
dsolve({deqtn,x(0)=0},x(t)); #Maple solution
DEplot(deqtn,x(t),t=-1..1,{[x(0)=0],[x(0)=3/2],
[x(0)=-3/2],[x(0)=1],[x(0)=-1],[x(0)=-2],
[x(0)=2]},x=-3..3,arrows=line,
color=black,linecolor=black,dirgrid=[30,30],stepsize=.1,
title='slope field and solution graphs');
```

$$x(t) = \frac{\frac{3}{2} - \frac{3}{2} e^{(12t)}}{-e^{(12t)} - 1}$$

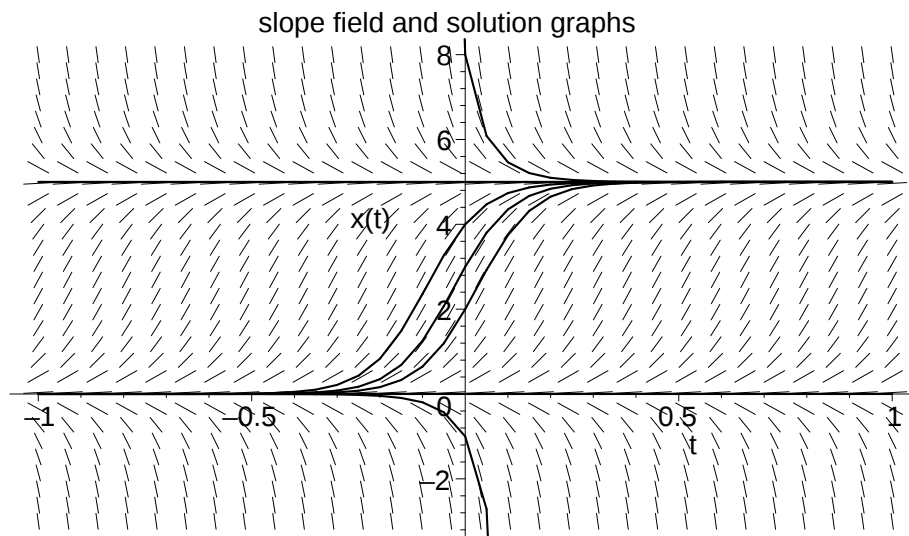


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[ >
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2.1.5

```
> deqtn:=diff(x(t),t)=3*x(t)*(5-x(t)): #5 section 2.1
dsolve({deqtn,x(0)=8},x(t)); #Maple solution
DEplot(deqtn,x(t),t=-1..1,{[x(0)=0],[x(0)=5],
[x(0)=8],[x(0)=2],[x(0)=3],[x(0)=4],
[x(0)=-1]},x=-3..8,arrows=line,
color=black,linecolor=black,dirgrid=[30,30],stepsize=.05,
title='slope field and solution graphs');
```

$$x(t) = \frac{5}{1 - \frac{3}{8} e^{(-15 t)}}$$



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