

```
In[34]:= eq1 = y'[t] == t * Exp[3 * t] - 2 * y[t];
sol1 = DSolve[{eq1, y[0] == 0}, y[t], t];
```

```
eq2 = y'[t] == 1 - (t - y[t])^2;
sol2 = DSolve[{eq2, y[2] == 1}, y[t], t];
```

```
eq3 = y'[t] == 1 + y[t] / t;
sol3 = DSolve[{eq3, y[1] == 2}, y[t], t];
```

```
eq4 = y'[t] == Cos[2 * t] + Sin[3 * t];
sol4 = DSolve[{eq4, y[0] == 1}, y[t], t];
```

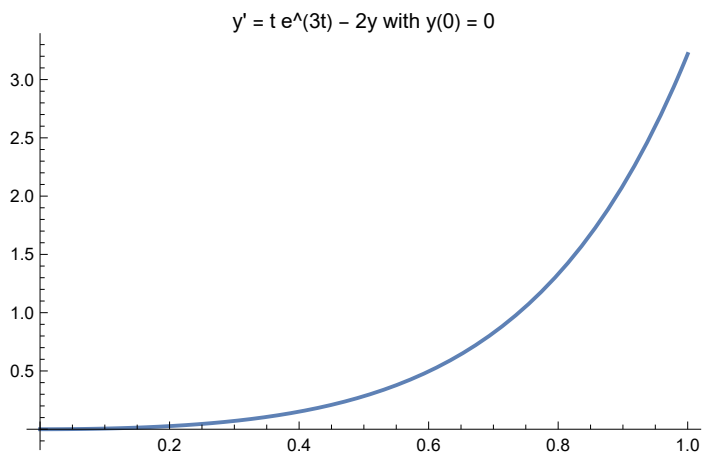
```
Plot[y[t] /. sol1, {t, 0, 1}, PlotRange -> All,
PlotLabel -> "y' = t e^(3t) - 2y with y(0) = 0"]
```

```
Plot[y[t] /. sol2, {t, 2, 3}, PlotRange -> Automatic,
PlotLabel -> "y' = 1 - (t - y)^2 with y(2) = 1"]
```

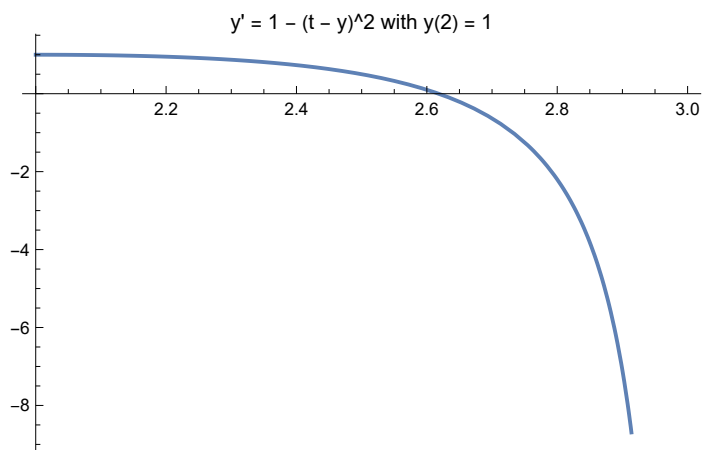
```
Plot[y[t] /. sol3, {t, 1, 2}, PlotRange -> All, PlotLabel -> "y' = 1 + y/t with y(1) = 2"]
```

```
Plot[y[t] /. sol4, {t, 0, 1}, PlotRange -> All,
PlotLabel -> "y' = cos 2t + sin 3t with y(0) = 1"]
```

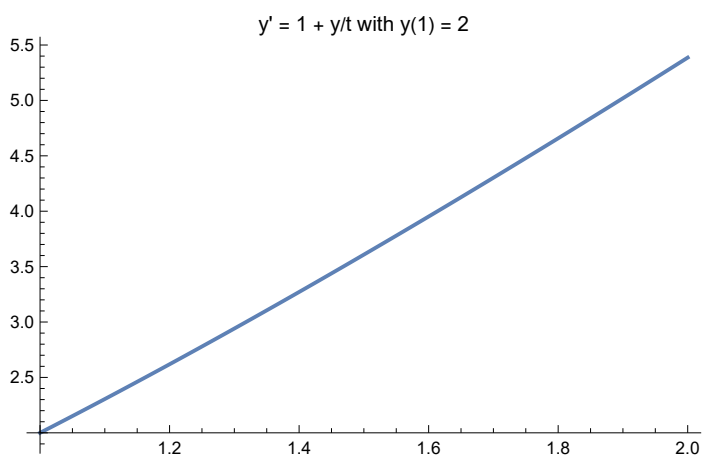
Out[42]=



Out[43]=



Out[44]=



Out[45]=

