

```
syms x y(x)
diferencialine_lygtis=diff(y,1)+2*x*y==0
```

```
diferencialine_lygtis(x) =
```

$$\frac{\partial}{\partial x} y(x) + 2 x y(x) = 0$$

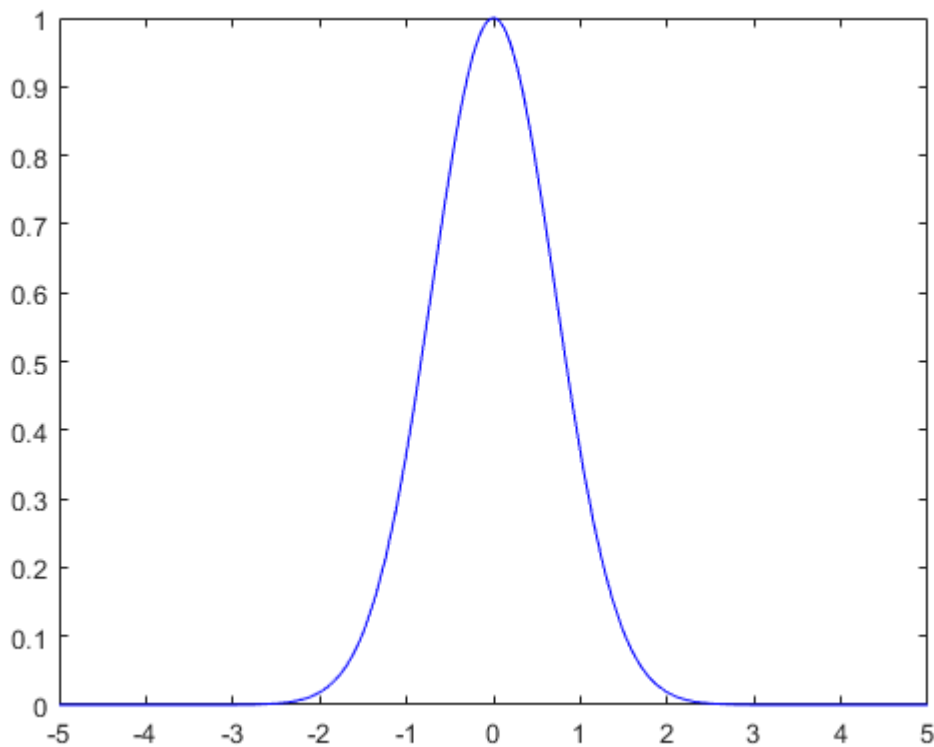
```
bendrasis_sprendinys=dsolve(diferencialine_lygtis)
```

```
bendrasis_sprendinys = C1 e-x2
```

```
atskirasis_sprendinys=dsolve(diferencialine_lygtis,y(0)==1)
```

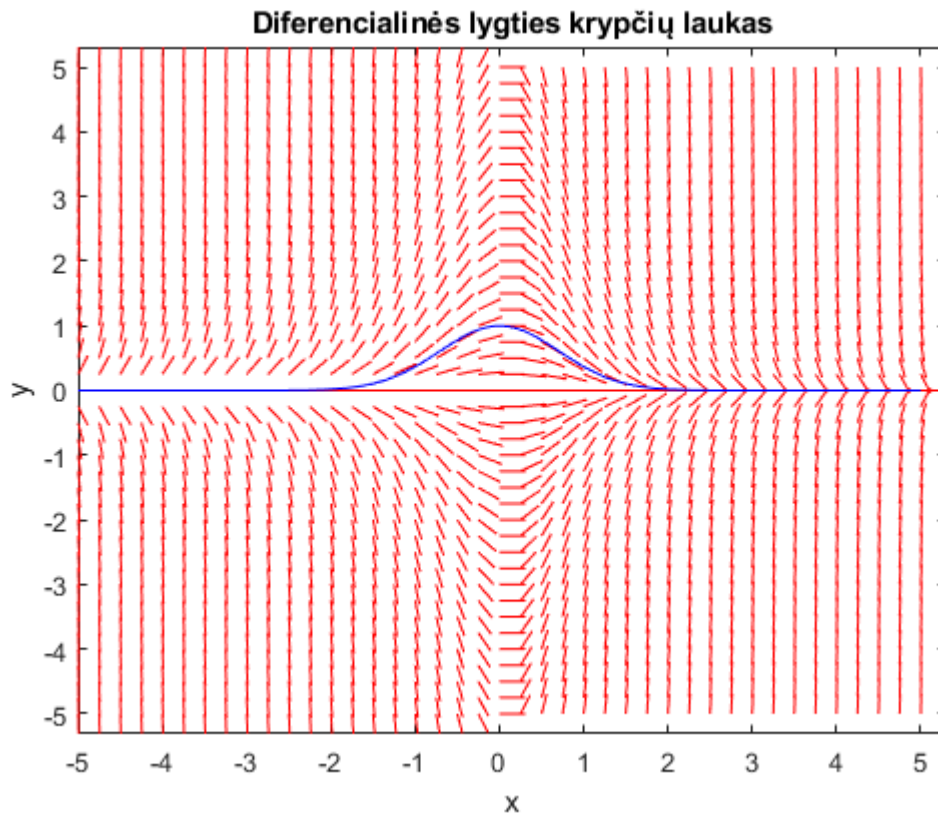
```
atskirasis_sprendinys = e-x2
```

```
fplot(atskirasis_sprendinys,[-5,5], 'b')
```



```
[x,y]=meshgrid(-5:0.25:5,-5:0.25:5);
dy=-2*x.*y;
dx=ones(size(dy));
dyu = dy./sqrt(dx.^2+dy.^2);
dxu = dx./sqrt(dx.^2+dy.^2);
quiver(x,y,dxu,dyu, 'r')
xmin=x(1)-(x(1)-x(2))/2;
xmax=x(end)+(x(1)-x(2))/2;
```

```
ymin=y(1)-(y(1)-y(2))/2;  
ymax=y(end)+(y(1)-y(2))/2;  
axis([xmin xmax ymin ymax]);  
hold on;  
fplot(atiskirasis_sprendinys,[-5,5],'b')  
clear all  
axis tight; xlabel('x'), ylabel('y')  
title('Diferencialinės lygties kryptių laukas')  
hold off;
```



```
clear all;
```