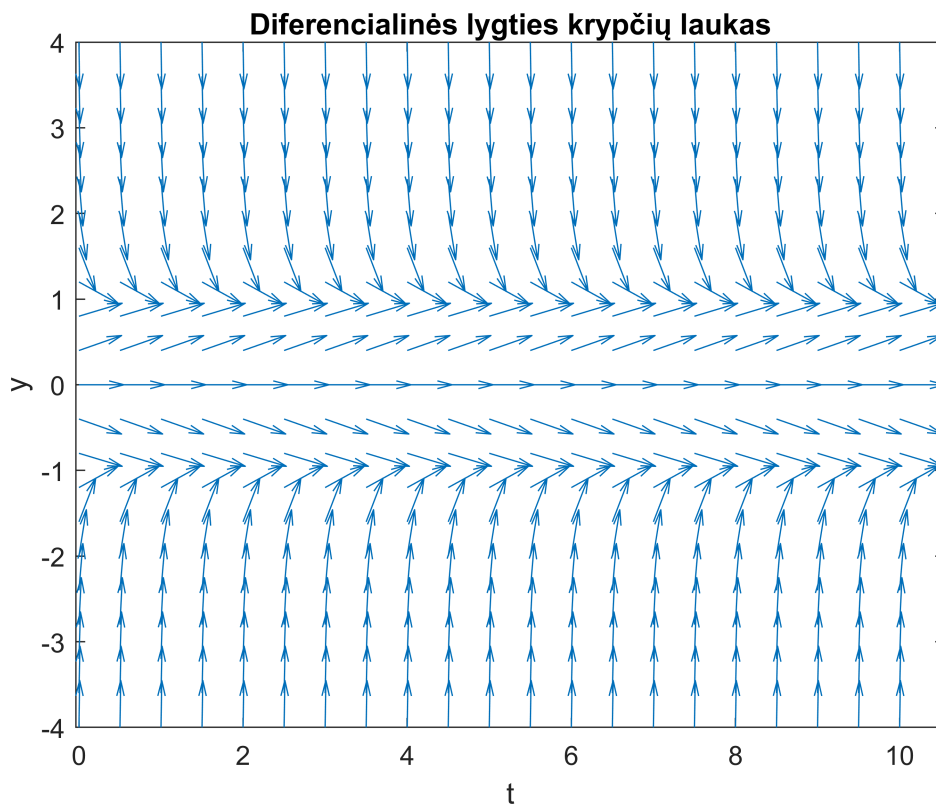


```

[x,y]=meshgrid(0:0.5:10,-4:0.4:4);
dy=y-y.^3;
dx=ones(size(dy));
dyu = dy./sqrt(dx.^2+dy.^2);
dxu = dx./sqrt(dx.^2+dy.^2);
quiver(x,y,dxu,dyu)
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;
clear all
axis tight; xlabel('t'), ylabel('y')
title('Diferencialinės lygties krypčių laukas')
hold off;

```



```
clear all;
```

```

syms x(t) t
f=diff(x,t)==x-x^3;
dsolve(f)

```

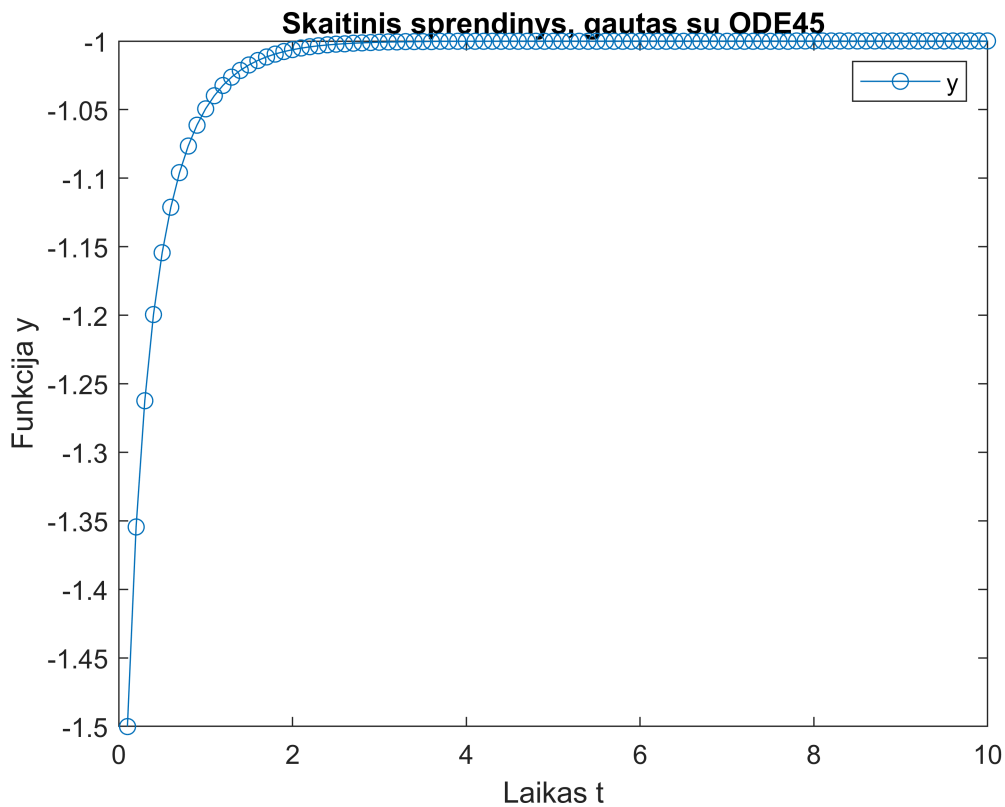
ans =

$$\begin{pmatrix} 1 \\ 0 \\ -1 \\ \sqrt{-\frac{1}{e^{c_2 - 2t} - 1}} \end{pmatrix}$$

```

clear all;
Y(1)= (-3/2);
for i=1:1:100
    u(i)= i/10;
end
for i=2:1:100
    [T,P]= ode45(@(t,Z) Z-Z.^3, [u(i-1) u(i)], Y(i-1));
    Y(i)=P(numel(P));
end
plot(u,Y(:),'-o')
title('Skaitinis sprendinys, gautas su ODE45');
xlabel('Laikas t');
ylabel('Funkcija y');
legend('y')

```



```

[x,y]=meshgrid(0:0.5:10,-4:0.4:4);
dy=y-y.^3;
dx=ones(size(dy));
dyu = dy./sqrt(dx.^2+dy.^2);
dxu = dx./sqrt(dx.^2+dy.^2);
quiver(x,y,dxu,dyu)
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;
clear all
axis tight; xlabel('x'), ylabel('y')
title('Diferencialinės lygties kryptių laukas')
hold on;
clear all;
Y(1)= (-3/2);
for i=1:1:100
    u(i)= i/10;
end
for i=2:1:100
    [T,P]= ode45(@(t,Z) Z-Z.^3, [u(i-1) u(i)], Y(i-1));
    Y(i)=P(numel(P));
end
plot(u,Y(:),'-o')
title('Skaitinis sprendinys kryptių lauke');
xlabel('Laikas t');
ylabel('Funkcija y');

```

