

Math 201

Maple Handout # 10.3

Graphs of Polar Functions

In this assignment we will learn how to plot polar curves.

Whenever you open a Maple file, press ENTER with cursor anywhere on **restart:** and on **with(plots):**

NOTE: To type click on T icon. To insert > for typing math, click on [> icon

```
> restart;
```

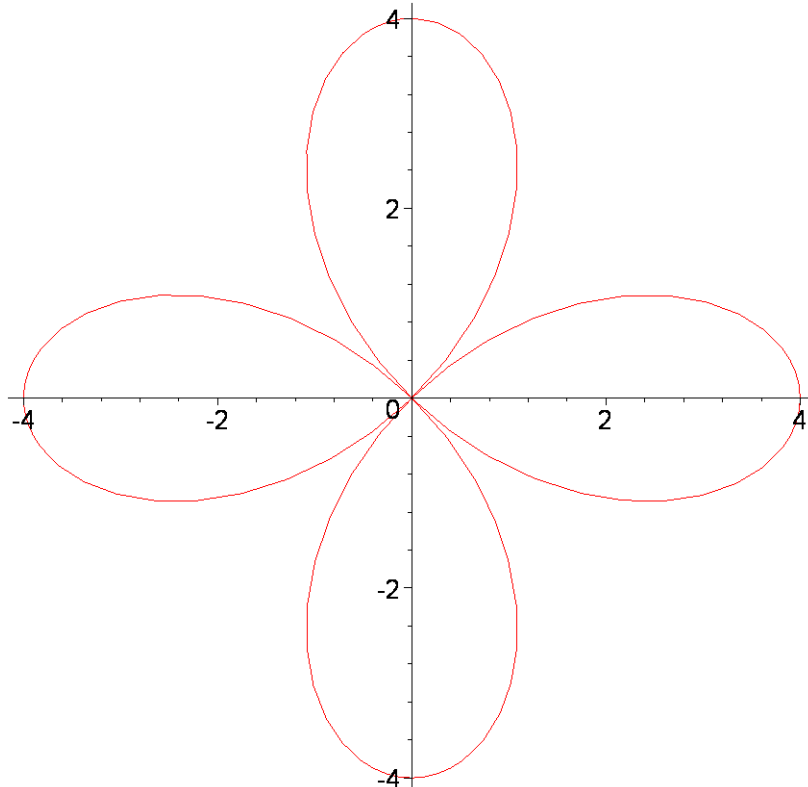
```
> with(plots):
```

```
Warning, the name changecoords has been redefined
```

```
> f(t):=4*cos(2*t);
```

```
f(t) := 4 cos(2 t)
```

```
> plot([f(t),t,t=0..2*Pi],coords=polar);
```

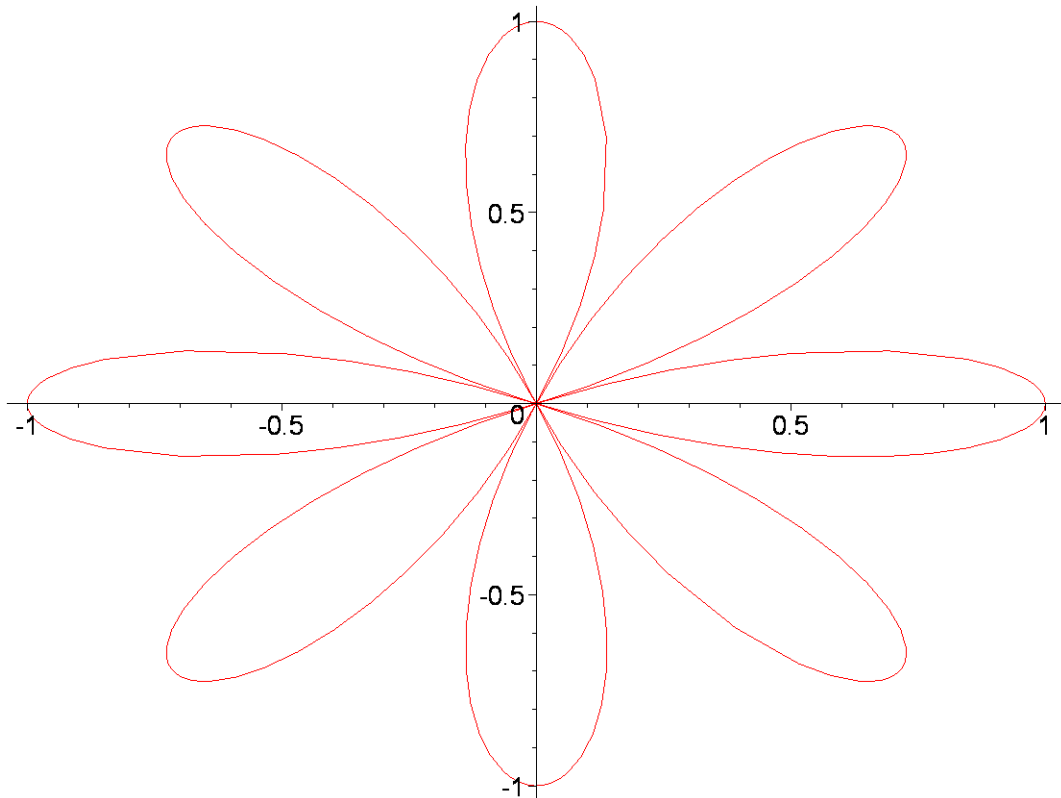


```
> animatecurve([f(t),t,t=0..2*Pi],coords=polar,frames=200,numpoints=100);
```

```
> f(t):=cos(4*t);
```

```
f(t) := cos(4 t)
```

```
> plot([f(t),t,t=0..2*Pi],coords=polar);
```

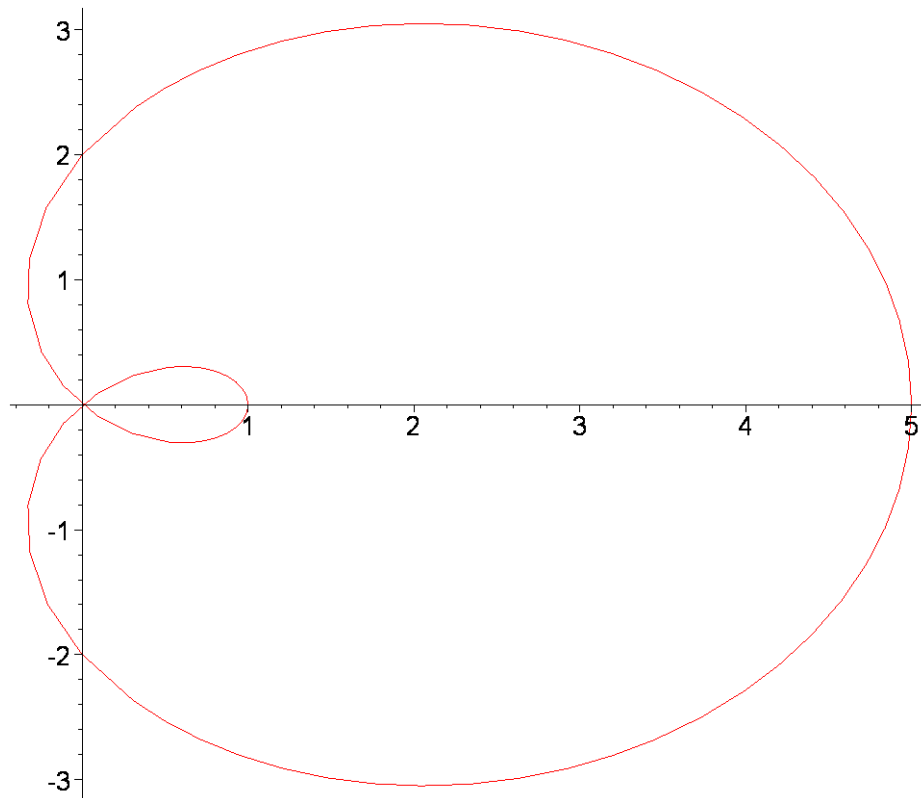


```
> animatecurve([f(t),t,t=0..2*Pi],coords=polar,view=[-1..1,-1..1],frames=100,numpoints=200);
```

```
> f(t):=2+3*cos(t);
```

```
f(t) := 2 + 3 cos(t)
```

```
> plot([f(t),t,t=0..2*Pi],coords=polar);
```

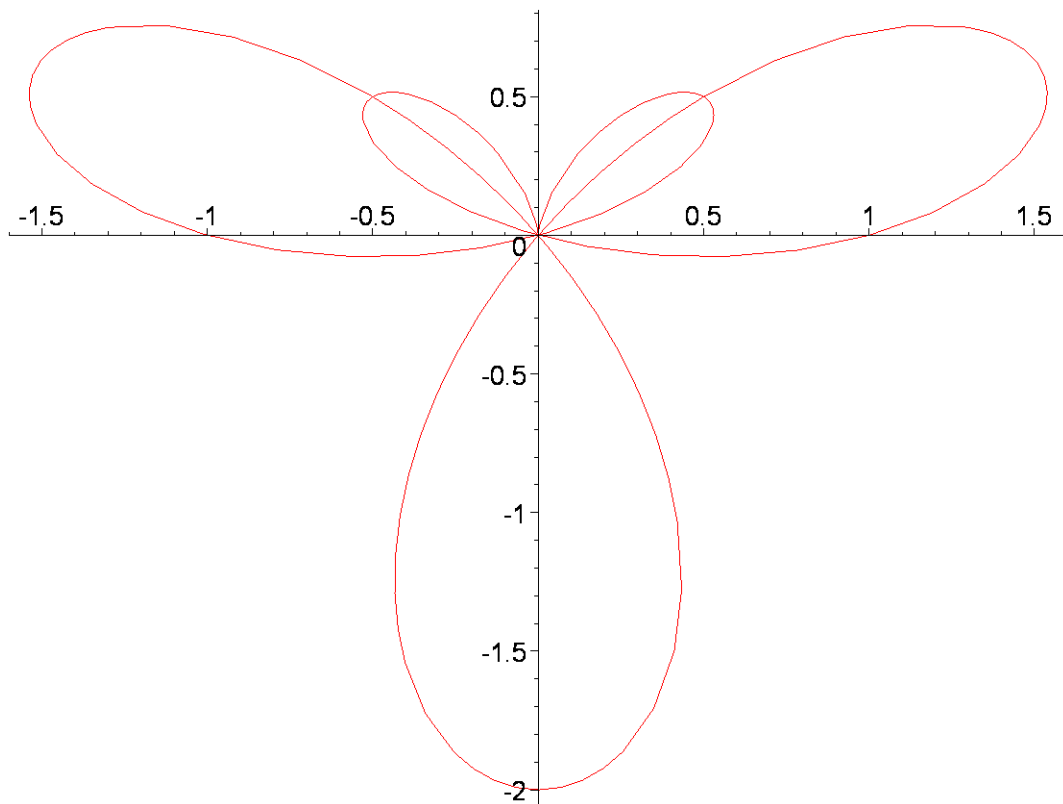


```
> animatecurve([f(t),t,t=0..2*Pi],coords=polar,frames=100,numpoints=200,color=black,thickness=4);
```

```
> f(t):=cos(2*t)+sin(3*t);
```

$f(t) := \cos(2t) + \sin(3t)$

```
> plot([f(t),t,t=0..2*Pi],coords=polar);
```

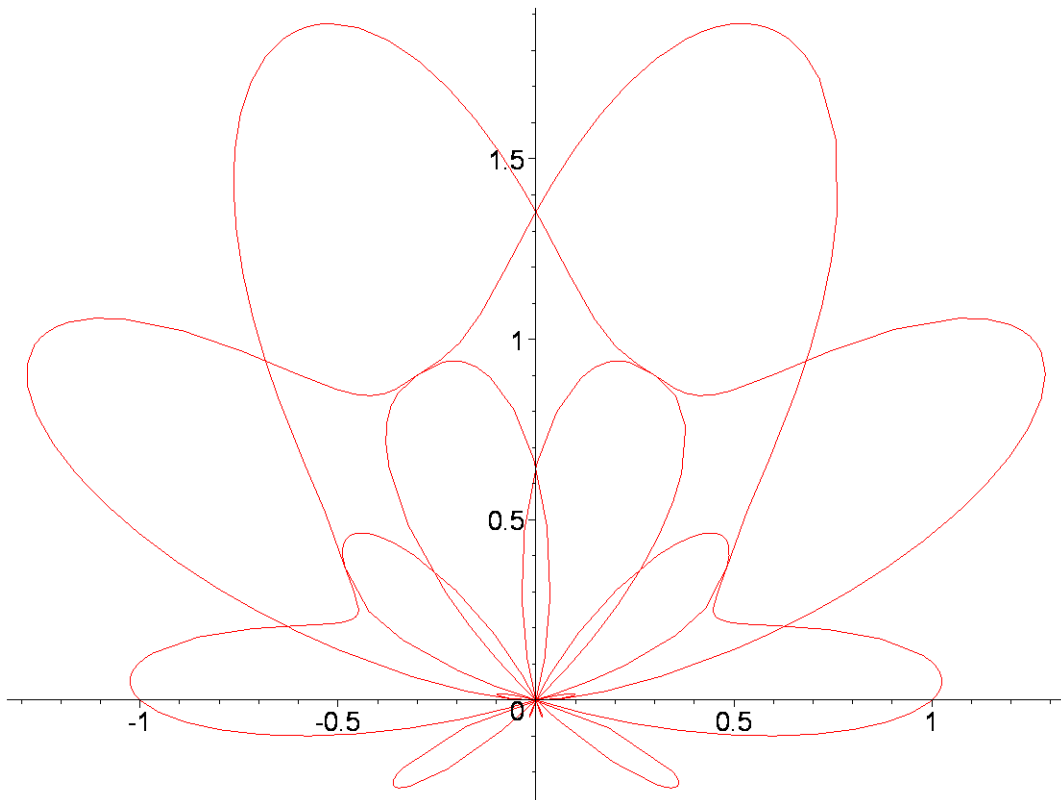


```
> animatecurve([f(t),t,t=0..2*Pi],coords=polar,frames=100,numpoints=
500,color=black,thickness=1);
```

```
> f(t):=sin(t)+sin(5*t/2)^3;
```

$$f(t) := \sin(t) + \sin\left(\frac{5t}{2}\right)^3$$

```
> plot([f(t),t,t=0..4*Pi],coords=polar);
```



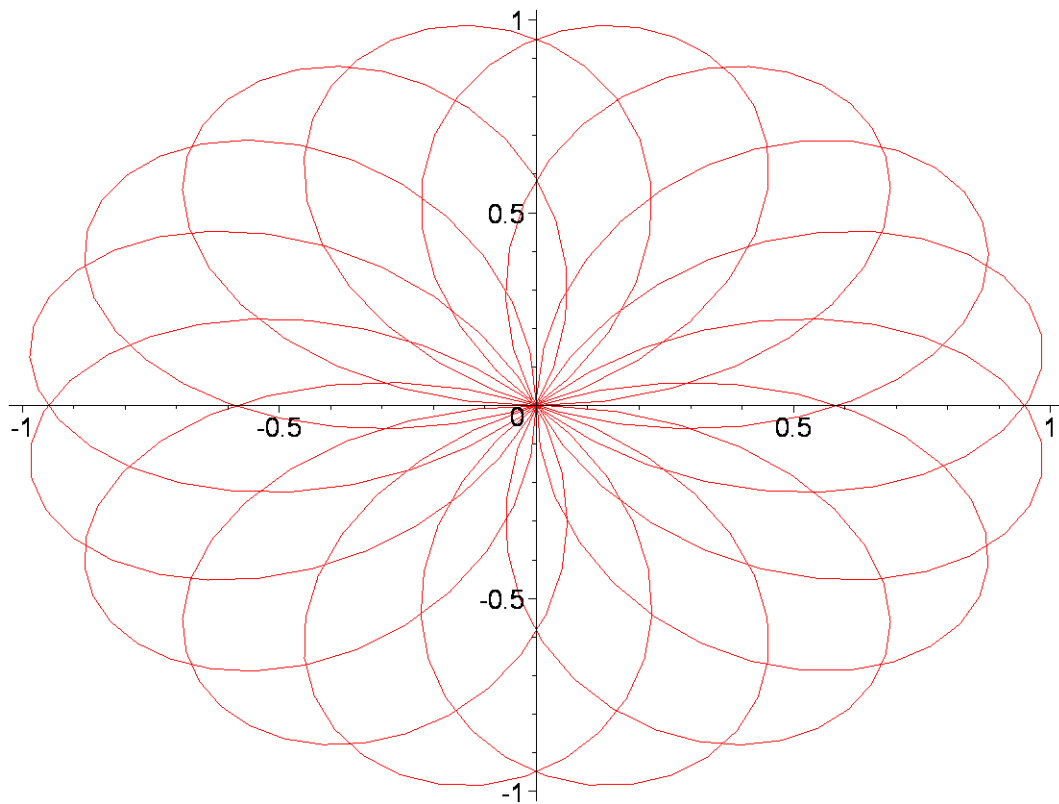
```
> animatecurve([f(t),t,t=0..4*Pi],coords=polar,frames=100,numpoints=500,color=black,thickness=1);
```

```
> f(t):=sin(8*t/5);
```

```
>
```

$$f(t) := \sin\left(\frac{8t}{5}\right)$$

```
> plot([f(t),t,t=0..10*Pi],coords=polar);
```



```
> animatecurve([f(t),t,t=0..10*Pi],coords=polar,frames=100,numpoints  
=500,color=blue,thickness=2);
```

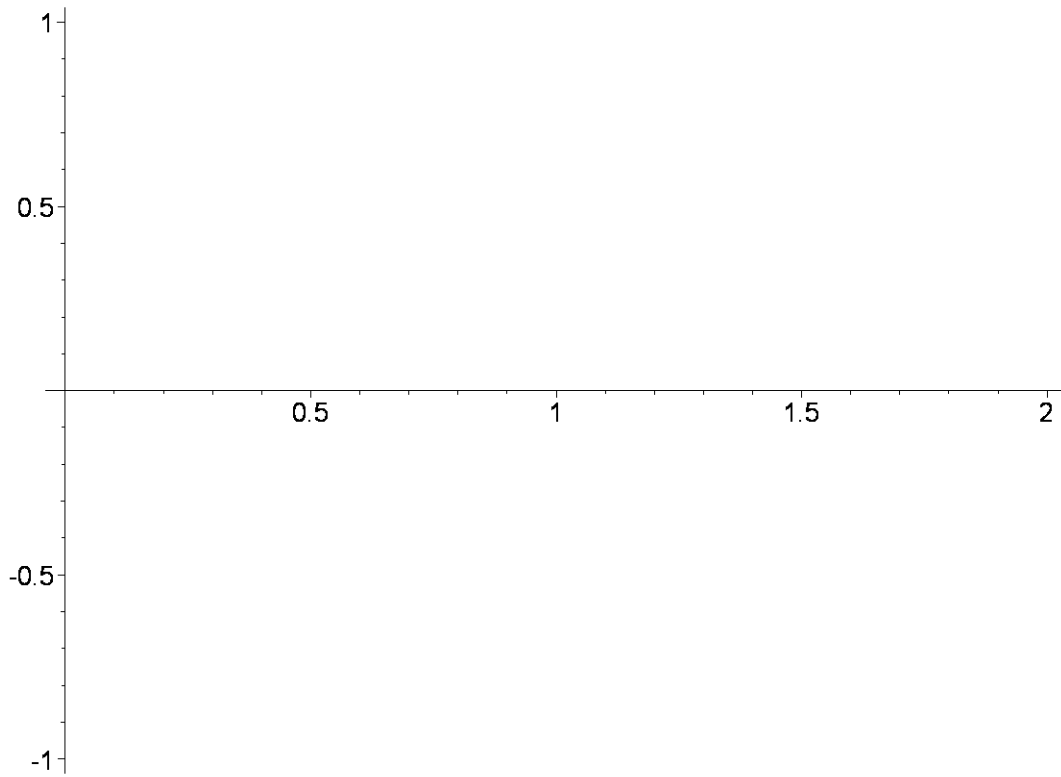
```
> c:=2;
```

```
c := 2
```

```
> f(t):=1+c*sin(t);
```

```
f(t) := 1 + c sin(t)
```

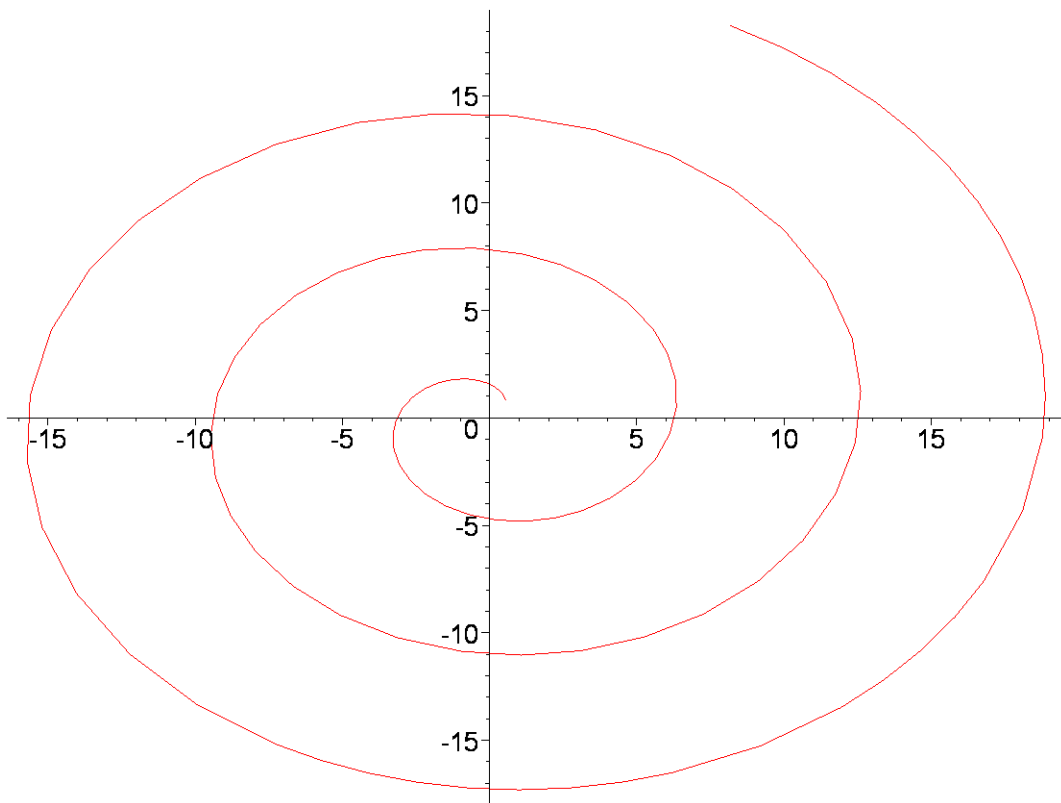
```
> plot([f(t),t,t=0..2*Pi],coords=polar);
```



```
> f(t):=t;
```

$f(t) := t$

```
> plot([f(t),t,t=1..20],coords=polar);
```



```
>
```