

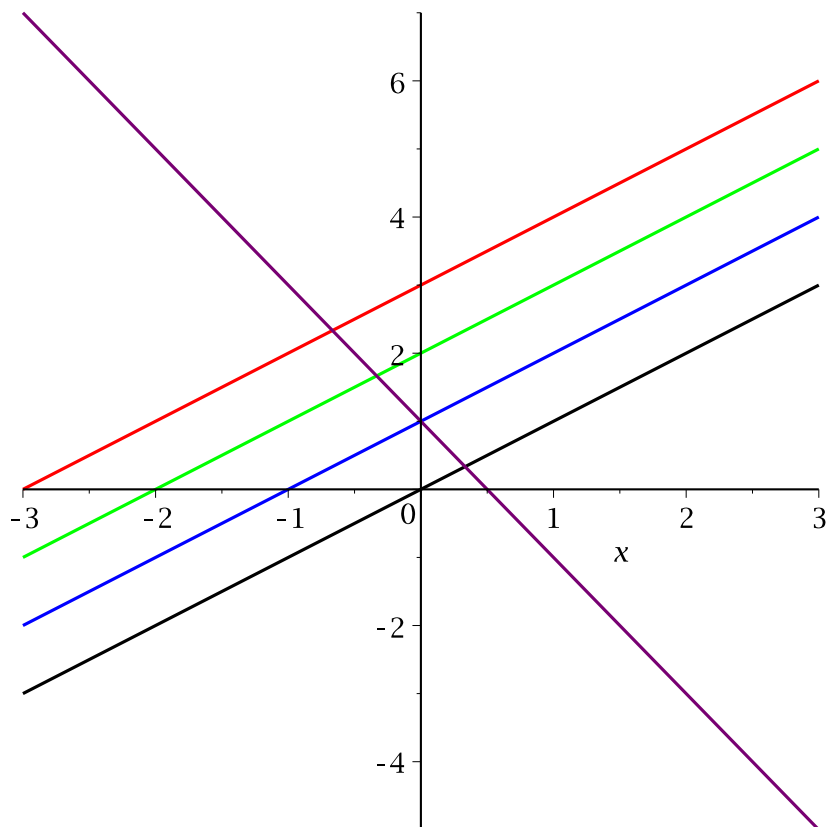
```
> with(plots):with(plottools):
```

We study the transform  $T(z) = 1/z$ .

```
> T:= z -> 1/z:
```

We plot a few lines.

```
> plot([x,x+1,x+2,x+3,-2*x+1],x=-3..3,color=[black,blue,green,red,
purple]);
```



Then we compute and plot their images under the map  $T$ .

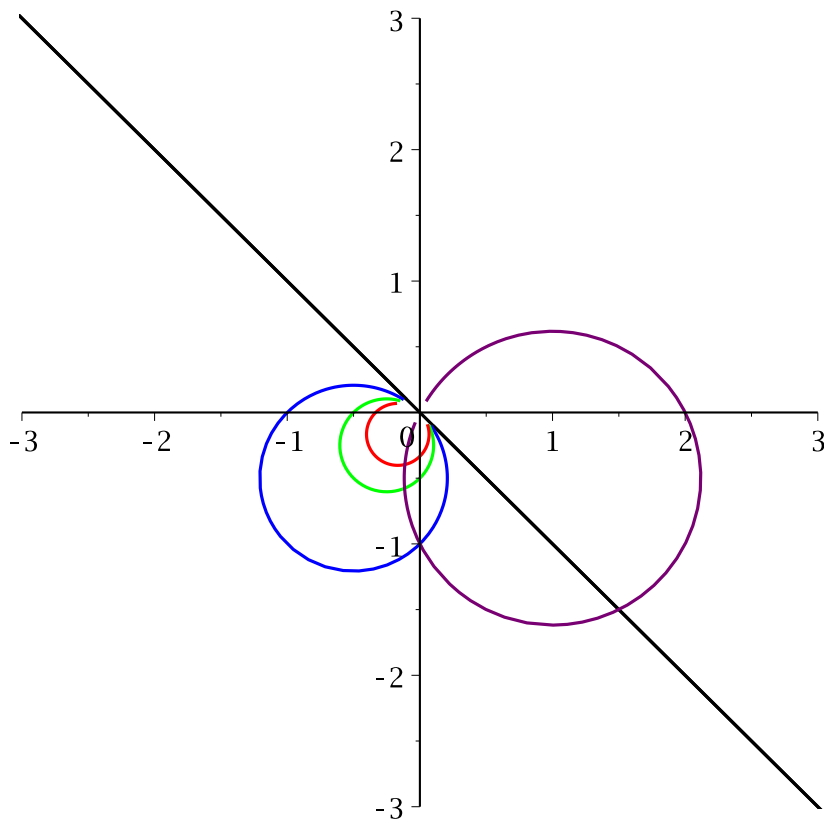
```
> p0:=complexplot(T(x+I*(x)),x=-5..5,color=black):
```

```
> p1:=complexplot(T(x+I*(x+1)),x=-5..5,color=blue):
```

```
> p2:=complexplot(T(x+I*(x+2)),x=-5..5,color=green):
```

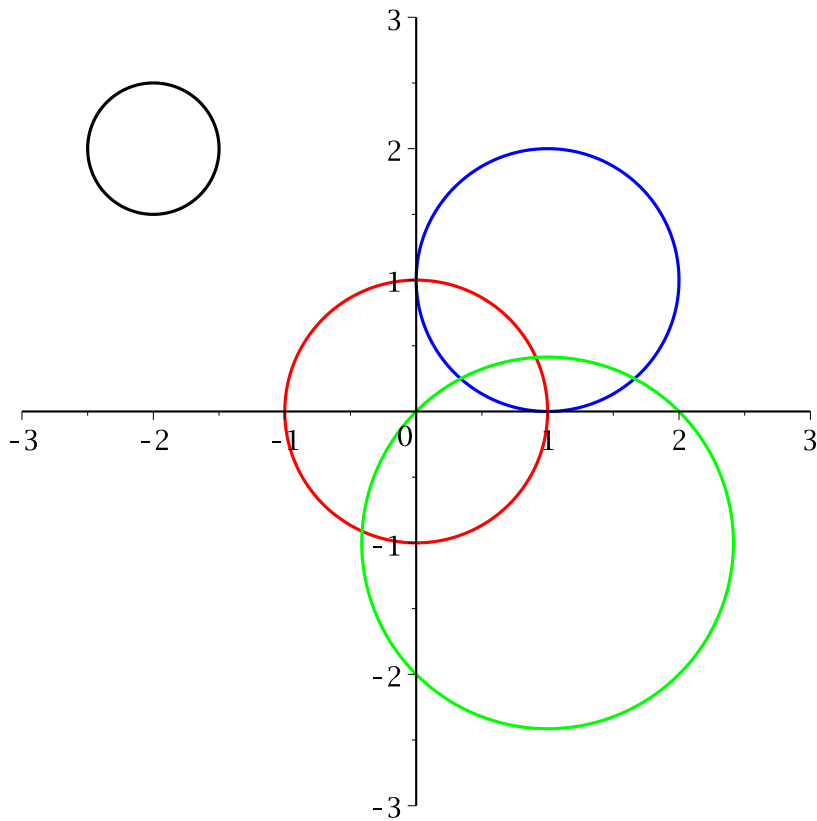
```
> p3:=complexplot(T(x+I*(x+3)),x=-5..5,color=red):
```

```
> p4:=complexplot(T(x+l*(-2*x+1)),x=-5..5,color=purple):  
> display(p0,p1,p2,p3,p4,view=[-3..3,-3..3]);
```



Next we plot some circles.

```
> c1 := circle([1, 1], 1, color = blue):  
> c2:=circle([0,0],1,color=red):  
> c3:=circle([1,-1],sqrt(2),color=green):  
> c4:=circle([-2,2],0.5,black):  
> display(c1,c2,c3,c4,view=[-3..3,-3..3]);
```



And finally we plot their images under  $T$ .

```

> Tc1:=complexplot(T(cos(t)+1+I*(sin(t)+1)),t=0..2*Pi,color=blue):
> Tc2:=complexplot(T(cos(t)+I*(sin(t))),t=0..2*Pi,color=red):
> Tc3:=complexplot(T(sqrt(2)*cos(t)+1+I*(sqrt(2)*sin(t)-1)),t=0..2*
Pi,color=green):
> Tc4:=complexplot(T(0.5*cos(t)-2 + I*(0.5*sin(t)+2)),t=0..2*Pi,
color=black):
> display(Tc1,Tc2,Tc3,Tc4,view=[-3..3,-3..3]);

```

