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

Here we look at streamlines for a rectangular barrier.

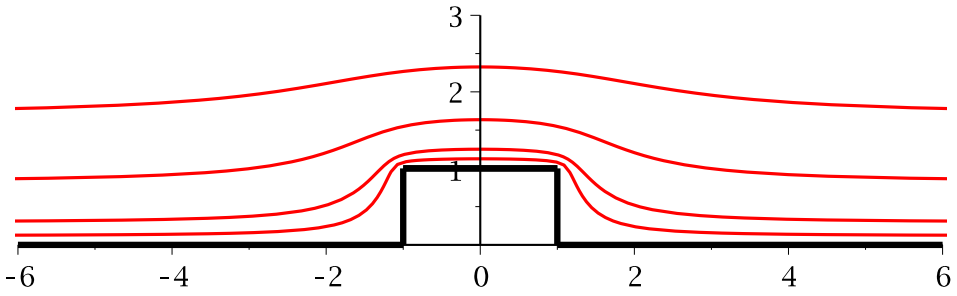
```
> K:=evalf(int(sqrt((t^2-1)/(t^2-2.2)),t=0..1));
```

$$K := 0.5664377068 \tag{1}$$

```
> f := z -> z*int(sqrt(((z*t)^2-1)/((z*t)^2-2.0)),t=0..1,numeric=
  true,digits=3);
```

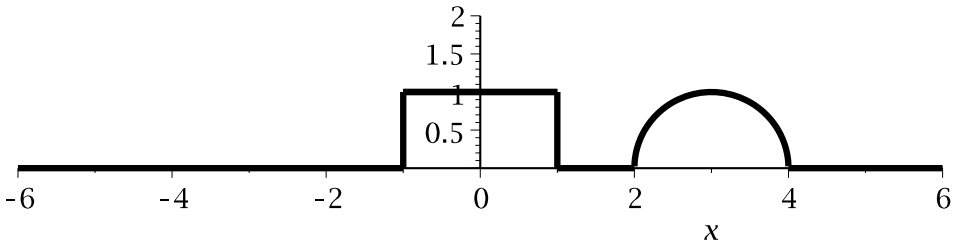
$$f := z \to z\left(int\left(\sqrt{\frac{z^2 t^2 - 1}{z^2 t^2 - 2.0}}, t = 0..1, numeric = true, digits = 3\right)\right) \tag{2}$$

```
> p1:=complexplot(f(x+I/10)/K+I,x=-5..5,numpoints=10,color=red):
> p2:=complexplot(f(x+0.2*I)/K+I,x=-5..5,numpoints=10,color=red):
> p3:=complexplot(f(x+0.5*I)/K+I,x=-5..5,numpoints=10,color=red):
> p4:=complexplot(f(x+I)/K+I,x=-5..5,numpoints=10,color=red):
> b1:=line([-6,0],[-1,0],color=black,thickness=3):
> b2:=line([-1,0],[-1,1],color=black,thickness=3):
> b3:=line([-1,1],[1,1],color=black,thickness=3):
> b4:=line([1,1],[1,0],color=black,thickness=3):
> b5:=line([1,0],[6,0],color=black,thickness=3):
> display(p1,p2,p3,p4,b1,b2,b3,b3,b4,b5,view=[-6..6,0..3]) ;
```



Question: How would you apply these ideas for a sequence of two barriers like the one below?

```
> b6:=plot(sqrt(1-(x-3)^2),color=black,thickness=3):
> b7:=line([1,0],[2,0],color=black,thickness=3):
> b8:=line([4,0],[6,0],color=black,thickness=3):
> display(b1,b2,b3,b3,b4,b7,b8,b6,view=[-6..6,0..2]);
```


2
1.5
1
0.5
-6
-4
-2
0
2
4
6
x