> theta := -log(cos(t));

$$\theta := -\ln(\cos(t)) \tag{1}$$

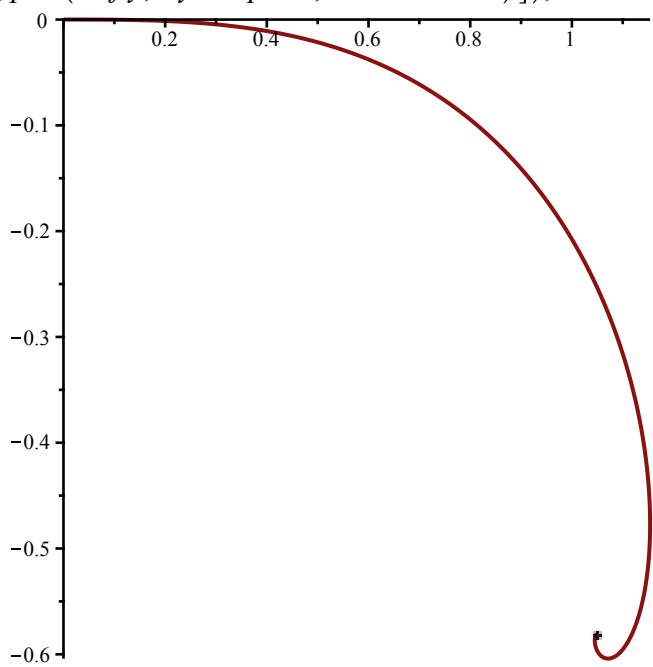> zinfty := int(cos(t)^I, t = 0 .. \frac{\text{Pi}}{2});

$$zinfty := \frac{\Gamma\left(\frac{1}{2} + \frac{I}{2}\right)\sqrt{\pi}}{2\,\Gamma\left(1 + \frac{I}{2}\right)} \tag{2}$$

> zinfty := [[Re(evalf(zinfty)), Im(evalf(zinfty))]];

$$zinfty := [[1.049478078, -0.5824562520]] \tag{3}$$

> int(cos(t)^I, t = 0 .. \frac{7 \cdot \text{Pi}}{100});

$$\sin\left(\frac{7\pi}{100}\right) \text{hypergeom}\left(\left[\frac{1}{2}, \frac{1}{2} - \frac{I}{2}\right], \left[\frac{3}{2}\right], \sin\left(\frac{7\pi}{100}\right)^2\right) \tag{4}$$

```
> croquette:=proc(n)
  local i,R,x,z;
  R:=[[0,0]];
  i:=1;
  while i<n/2 do
      x:=i/n*Pi;
      z:=sin(x)*hypergeom([1/2,1/2-I/2],[3/2],sin(x)^2);
      z:=evalf(z);
      R:=[op(R),[Re(z),Im(z)]];
      i:=i+1;
  od;
  R;
  end:
```

> C3000 := croquette(3000) :

> display([plot(C3000), plot(zinfty, style = point, color = black)]);


```
> kroquette:=proc(n,rho)
```
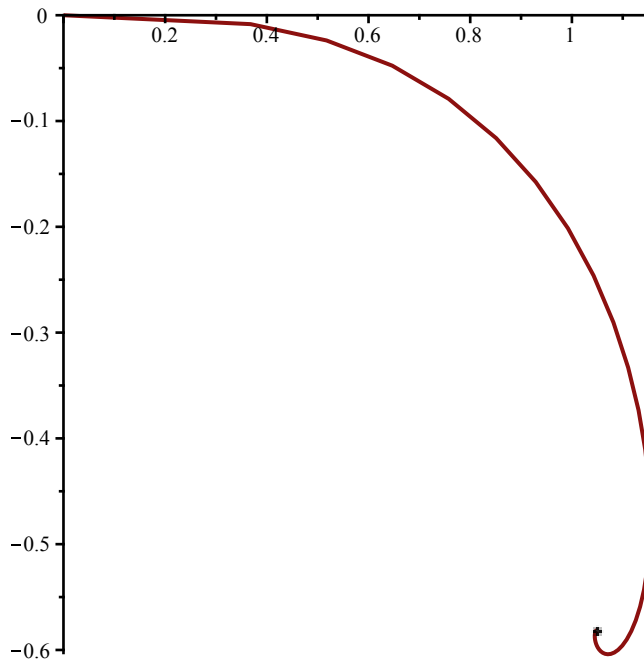
```
   local i,R,x,z;
   R:=[[0,0]];
   i:=2;
   while i<n do
      x:=Pi/2-rho^i*Pi/2;
      z:=sin(x)*hypergeom([1/2,1/2-I/2],[3/2],sin(x)^2);
      z:=evalf(z);
      R:=[op(R),[Re(z),Im(z)]];
      i:=i+1;
   od;
   R;
   end:
```

> $K1000 := kroquette\left(200, \dfrac{7}{8}\right):$

> $display([plot(K1000), plot(zinfty, style = point, color = black)]);$

> $with(plots);$

>