In[1]:=
```
Clear["Global`*"];
LFT3[z_, z1_, z2_, z3_] := (z - z1) * (z2 - z3) / ((z - z3) * (z2 - z1));
```

In[3]:=
```
Simplify[Solve[LFT3[w, -1, -I, 1] == LFT3[z, 0, 1, 2], w]]
```

Out[3]=
$$\left\{\left\{w \to \frac{i\,((-1-i)+z)}{(-1+i)+z}\right\}\right\}$$

In[4]:=
```
wa = Simplify[Solve[LFT3[w, -1, -I, a] == LFT3[z, 0, 1, 2], w]]
```

Out[4]=
$$\left\{\left\{w \to \frac{a\,(2-(2-i)\,z)-i\,(-2+z)}{-2\,i+a\,(-2+z)-(1-2\,i)\,z}\right\}\right\}$$

In[5]:=
```
w = w /. wa[[1]]
```

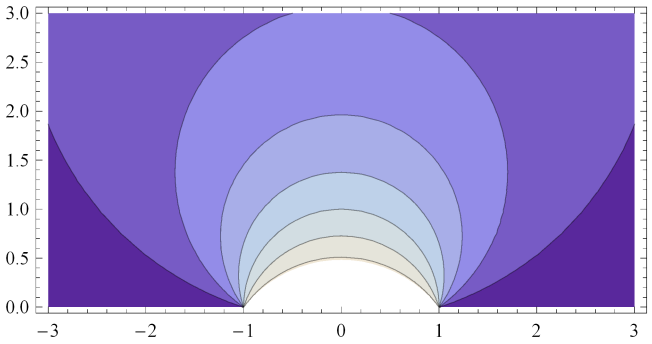
Out[5]=
$$\frac{a\,(2-(2-i)\,z)-i\,(-2+z)}{-2\,i+a\,(-2+z)-(1-2\,i)\,z}$$

In[6]:=
```
Limit[w, a → ComplexInfinity]
```

Out[6]=
$$\frac{2-(2-i)\,z}{-2+z}$$

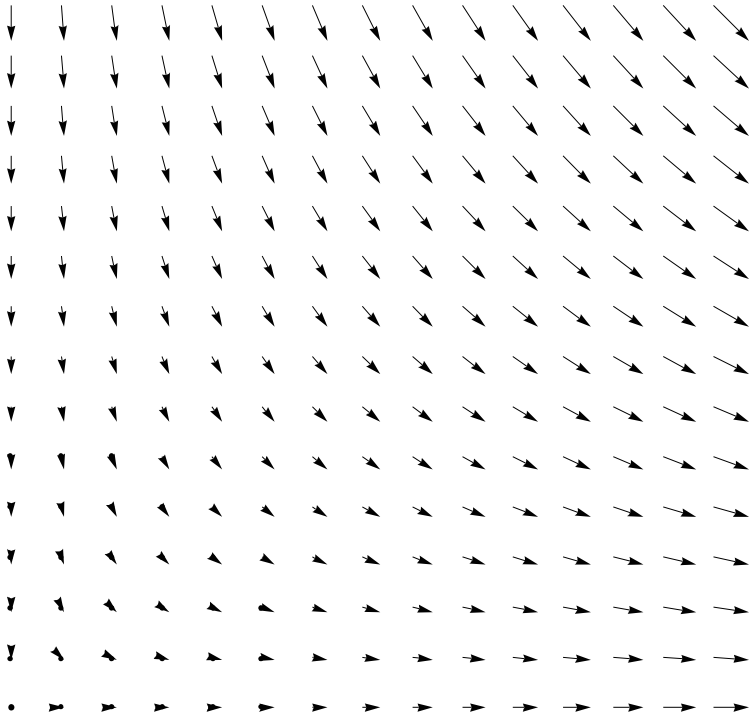
In[7]:=
```
x /: Im[x] = 0; y /: Im[y] = 0;
v = Im[Log[(z - 1) / (z + 1) /. z → x + I * y]];
u = Re[Log[(z - 1) / (z + 1) /. z → x + I * y]];
T = v / Pi; ContourPlot[T, {x, -3, 3}, {y, 0.001, 3},
 AspectRatio → Automatic]
```

Out[10]=



In[11]:=
```
Needs["VectorFieldPlots`"];
Needs["VectorFieldPlots`"];
HamiltonianFieldPlot[2 x y, {x, 0, 2}, {y, 0, 2}]
```

Out[13]=



In[14]:=
```
Off[General::obspkg]; Off[General::newpkg]; Needs["Graphics`ImplicitPlot` "];
AA = ImplicitPlot[
   {y (1 - 1 / (x^2 + y^2)) == .0,
    y (1 - 1 / (x^2 + y^2)) == .2,
    y (1 - 1 / (x^2 + y^2)) == .4,
    y (1 - 1 / (x^2 + y^2)) == .6,
    y (1 - 1 / (x^2 + y^2)) == .8,
    y (1 - 1 / (x^2 + y^2)) == 1.0,
    y (1 - 1 / (x^2 + y^2)) == 1.2,
    y (1 - 1 / (x^2 + y^2)) == -.2,
    y (1 - 1 / (x^2 + y^2)) == -.4, y (1 - 1 / (x^2 + y^2)) == -.6,
    y (1 - 1 / (x^2 + y^2)) == -.8,
    y (1 - 1 / (x^2 + y^2)) == -1.0,
    y (1 - 1 / (x^2 + y^2)) == -1.2}, {x, -2, 2},
   Axes -> False, DisplayFunction → Identity];
fluid = Show[AA, DisplayFunction → $DisplayFunction]
```

Out[16]=