

In[14]:= **x1 = Sin[theta]**

Out[14]=
 $\text{Sin}[\text{theta}]$

In[16]:= **y1 = 1 - Cos[theta]**

Out[16]=
 $1 - \text{Cos}[\text{theta}]$

In[17]:= **r1 = Simplify[Sqrt[x1 ^ 2 + y1 ^ 2]]**

Out[17]=
 $\sqrt{2 - 2 \text{Cos}[\text{theta}]}$

In[18]:= **r2 = 1 / r1**

Out[18]=
 $\frac{1}{\sqrt{2 - 2 \text{Cos}[\text{theta}]}}$

In[19]:= **x2 = Simplify[(x1 / r1) * r2]**

Out[19]=
 $\frac{1}{2} \text{Cot}\left[\frac{\text{theta}}{2}\right]$

In[20]:= **y2 = Simplify[(y1 / r1) * r2]**

Out[20]=
 $\frac{1}{2}$

In[21]:= **y = 0.2**

Out[21]=
 0.2

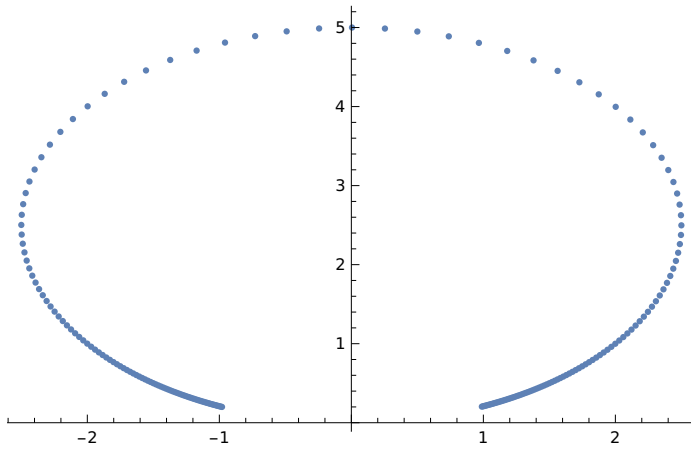
In[22]:= **chordInverted = Table[{x/(x ^ 2 + y ^ 2), y/(x ^ 2 + y ^ 2)}, {x, -Sqrt[1 - y ^ 2], +Sqrt[1 - y ^ 2], 0.01}]**

Out[22]=
{ {-0.979796, 0.2}, {-0.989079, 0.203977}, {-0.998531, 0.208071}, {-1.00816, 0.212289},
{-1.01796, 0.216634}, {-1.02794, 0.221112}, {-1.03812, 0.225727}, {-1.04848, 0.230487},
{-1.05904, 0.235396}, {-1.0698, 0.240461}, {-1.08078, 0.245688}, {-1.09196, 0.251084},
{-1.10336, 0.256657}, {-1.11499, 0.262414}, {-1.12685, 0.268364}, {-1.13895, 0.274514},
{-1.15129, 0.280873}, {-1.16389, 0.287452}, {-1.17674, 0.294259}, {-1.18985, 0.301306},
{-1.20324, 0.308603}, {-1.2169, 0.316163}, {-1.23086, 0.323997}, {-1.24511, 0.332119},
{-1.25966, 0.340543}, {-1.27453, 0.349283}, {-1.28971, 0.358355}, {-1.30523, 0.367775},
{-1.32108, 0.377562}, {-1.33728, 0.387733}, {-1.35384, 0.398309}, {-1.37077, 0.409311},
{-1.38808, 0.42076}, {-1.40577, 0.432681}, {-1.42386, 0.445098}, {-1.44236, 0.45804},
{-1.46128, 0.471535}, {-1.48062, 0.485612}, {-1.50041, 0.500306}, {-1.52064, 0.515651},
{-1.54134, 0.531684}, {-1.56251, 0.548445}, {-1.58416, 0.565977}, {-1.6063, 0.584325},
{-1.62894, 0.603537}, {-1.65208, 0.623668}, {-1.67575, 0.644771}, {-1.69993, 0.666907},
{-1.72465, 0.690141}, {-1.7499, 0.714541}, {-1.77568, 0.740181}, {-1.802, 0.767141},
{-1.82885, 0.795506}, {-1.85623, 0.825367}, {-1.88414, 0.856823}, {-1.91255, 0.889979},
{-1.94144, 0.924947}, {-1.97081, 0.96185}, {-2.00061, 1.00082}, {-2.03081, 1.04199},

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{-2.06136, 1.08551}, {-2.09221, 1.13155}, {-2.12328, 1.18027}, {-2.15448, 1.23185},
{-2.18573, 1.28649}, {-2.21689, 1.3444}, {-2.24782, 1.40578}, {-2.27835, 1.47087},
{-2.3083, 1.53991}, {-2.33741, 1.61314}, {-2.36542, 1.69082}, {-2.39202, 1.77321},
{-2.41684, 1.86057}, {-2.43946, 1.95316}, {-2.45939, 2.05124}, {-2.47608, 2.15503},
{-2.48891, 2.26474}, {-2.49714, 2.38055}, {-2.5, 2.50255}, {-2.49658, 2.6308},
{-2.48589, 2.76524}, {-2.46686, 2.90568}, {-2.43834, 3.05182}, {-2.39908, 3.20314},
{-2.34782, 3.35892}, {-2.28325, 3.51822}, {-2.20411, 3.67978}, {-2.10922, 3.84208},
{-1.99755, 4.00326}, {-1.86828, 4.16118}, {-1.72095, 4.31338}, {-1.55546, 4.45718},
{-1.37224, 4.58973}, {-1.17223, 4.70814}, {-0.957007, 4.80958}, {-0.728723, 4.89144},
{-0.490096, 4.95149}, {-0.244311, 4.98803}, {0.00510257, 4.99999}, {0.25444, 4.98702},
{0.5, 4.94949}, {0.738265, 4.88851}, {0.966065, 4.8058}, {1.1807, 4.70362},
{1.38005, 4.58458}, {1.56257, 4.45151}, {1.72732, 4.30731}, {1.87391, 4.15483},
{2.00245, 3.99673}, {2.11342, 3.83546}, {2.20764, 3.67316}, {2.28616, 3.51166},
{2.35016, 3.35249}, {2.40091, 3.19687}, {2.43971, 3.04575}, {2.46782, 2.89984},
{2.48648, 2.75963}, {2.49685, 2.62544}, {2.5, 2.49745}, {2.49691, 2.3757},
{2.48847, 2.26015}, {2.47547, 2.15068}, {2.45864, 2.04712}, {2.43859, 1.94928},
{2.41587, 1.8569}, {2.39097, 1.76975}, {2.36431, 1.68756}, {2.33624, 1.61007},
{2.30709, 1.53701}, {2.27712, 1.46814}, {2.24656, 1.40321}, {2.21562, 1.34197},
{2.18445, 1.2842}, {2.15321, 1.22969}, {2.12201, 1.17822}, {2.09095, 1.12962},
{2.06011, 1.08369}, {2.02957, 1.04026}, {1.99939, 0.999184}, {1.9696, 0.960304},
{1.94026, 0.923483}, {1.91138, 0.88859}, {1.88299, 0.855506}, {1.85511, 0.824118},
{1.82775, 0.79432}, {1.80091, 0.766014}, {1.77462, 0.739109}, {1.74885, 0.713521},
{1.72363, 0.68917}, {1.69893, 0.665982}, {1.67477, 0.643889}, {1.65113, 0.622827},
{1.628, 0.602736}, {1.60538, 0.583559}, {1.58326, 0.565245}, {1.56164, 0.547746},
{1.54049, 0.531016}, {1.51981, 0.515011}, {1.49959, 0.499694}, {1.47982, 0.485026},
{1.4605, 0.470973}, {1.4416, 0.457501}, {1.42311, 0.444581}, {1.40504, 0.432184},
{1.38736, 0.420283}, {1.37007, 0.408853}, {1.35316, 0.397869}, {1.33662, 0.38731},
{1.32043, 0.377155}, {1.30459, 0.367384}, {1.28909, 0.357978}, {1.27391, 0.34892},
{1.25906, 0.340193}, {1.24452, 0.331782}, {1.23028, 0.323672}, {1.21634, 0.315849},
{1.20269, 0.3083}, {1.18931, 0.301013}, {1.17621, 0.293976}, {1.16337, 0.287179},
{1.15078, 0.280609}, {1.13845, 0.274259}, {1.12637, 0.268117}, {1.11451, 0.262176},
{1.10289, 0.256426}, {1.0915, 0.250861}, {1.08032, 0.245471}, {1.06936, 0.240251},
{1.05861, 0.235192}, {1.04805, 0.23029}, {1.0377, 0.225536}, {1.02753, 0.220926},
{1.01755, 0.216454}, {1.00776, 0.212114}, {0.998142, 0.207902}, {0.988697, 0.203812}}
```

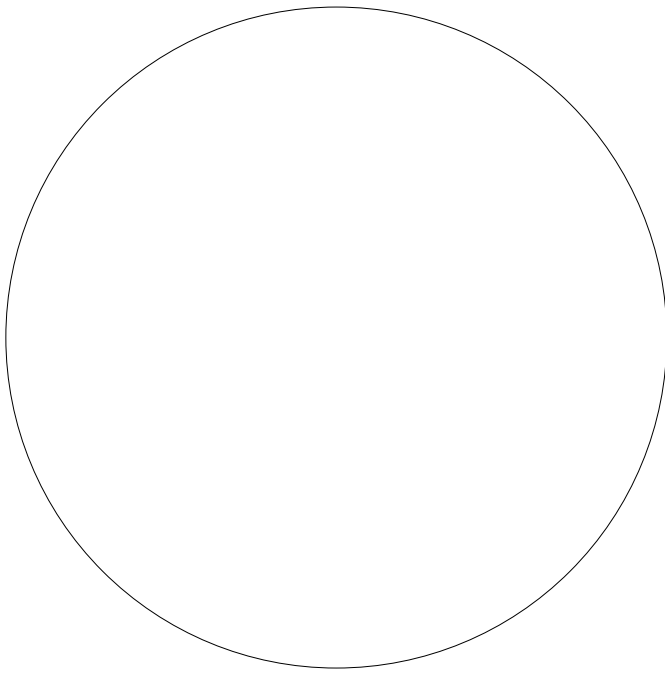
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In[23]:= cip = ListPlot[chordInverted]
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Out[23]=



In[24]:= **circ = Graphics[Circle[{0, 1/2/y}, 1/2/y]]**

Out[24]=



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In[25]:= Show[cip, circ]
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Out[25]=
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