

In[165]:= **ts = {0, 1/6, 1/2, 2/3, 3/4, 11/6} Pi**  
[円周率]

Out[165]:=  $\left\{0, \frac{\pi}{6}, \frac{\pi}{2}, \frac{2\pi}{3}, \frac{3\pi}{4}, \frac{11\pi}{6}\right\}$

In[166]:= **Exp[I ts]**  
[虚数単体]

Out[166]:=  $\left\{1, e^{\frac{i\pi}{6}}, i, e^{\frac{2i\pi}{3}}, e^{\frac{3i\pi}{4}}, e^{-\frac{i\pi}{6}}\right\}$

In[167]:= **ComplexExpand[%]**  
[式の展開]

Out[167]:=  $\left\{1, \frac{i}{2} + \frac{\sqrt{3}}{2}, i, -\frac{1}{2} + \frac{i\sqrt{3}}{2}, -\frac{1-i}{\sqrt{2}}, -\frac{i}{2} + \frac{\sqrt{3}}{2}\right\}$

In[168]:= **z = 2 Sqrt[3] - 2 I**  
[平方根] [虚]

Out[168]:=  $-2 i + 2 \sqrt{3}$

In[169]:= **Abs[z]**  
[絶対値]

Out[169]:= 4

In[170]:= **Arg[z]**  
[偏角]

Out[170]:=  $-\frac{\pi}{6}$

In[171]:= **Table[Exp[I (2 k Pi / 6)], {k, 0, 5}]**  
[リ...] [虚...] [円周率]

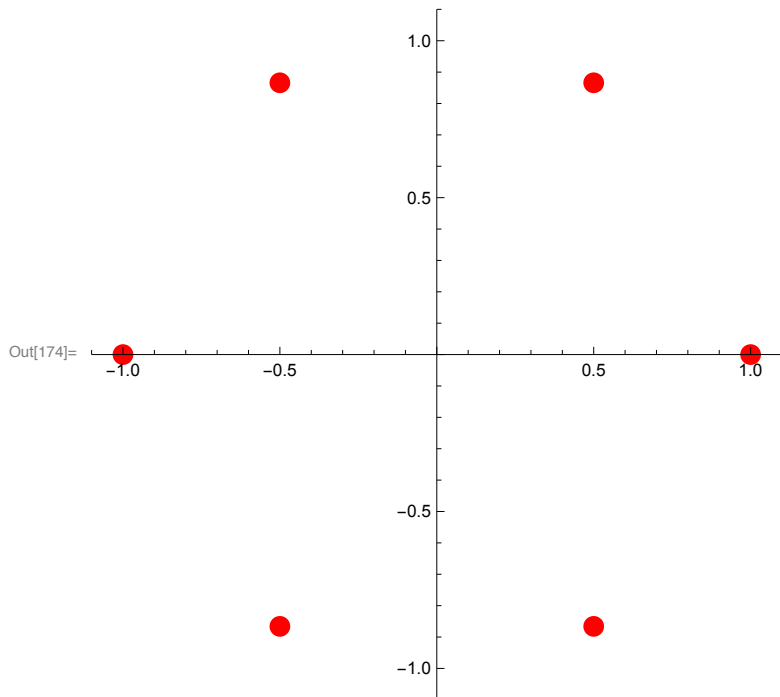
Out[171]:=  $\left\{1, e^{\frac{i\pi}{3}}, e^{\frac{2i\pi}{3}}, -1, e^{-\frac{2i\pi}{3}}, e^{-\frac{i\pi}{3}}\right\}$

In[172]:= **l1 = ComplexExpand[%]**  
[式の展開]

Out[172]:=  $\left\{1, \frac{1}{2} + \frac{i\sqrt{3}}{2}, -\frac{1}{2} + \frac{i\sqrt{3}}{2}, -1, -\frac{1}{2} - \frac{i\sqrt{3}}{2}, \frac{1}{2} - \frac{i\sqrt{3}}{2}\right\}$

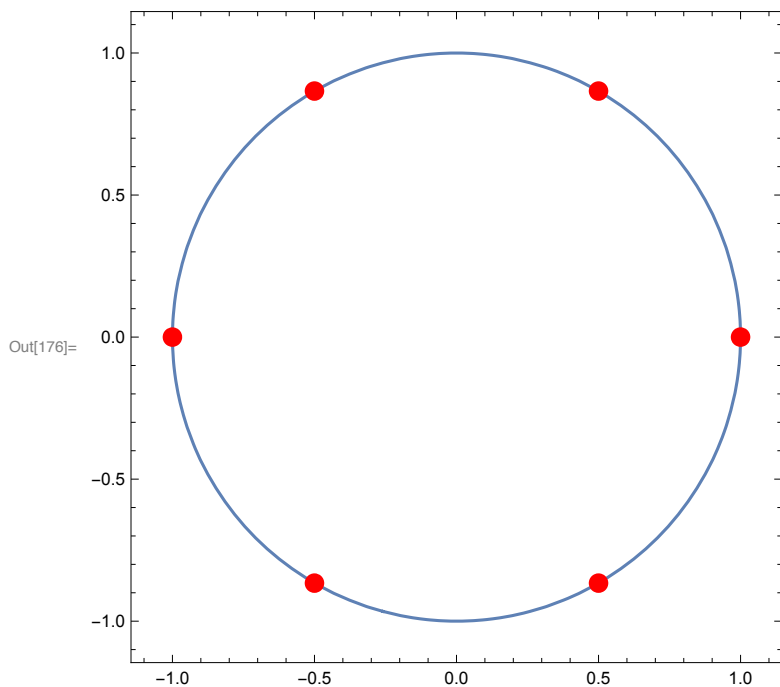
In[173]:= **clistplot[list\_] :=**  
**ListPlot[Table[{Re[list[[i]]], Im[list[[i]]}], {i, Length[list]}],**  
[リスト...] [リス...] [実部] [複素数の虚部] [長さ]  
**PlotStyle → {Red, PointSize[0.03]},**  
[プロットスタイル] [赤] [ポイントサイズ]  
**PlotRange → {{-1.1, 1.1}, {-1.1, 1.1}}, AspectRatio → Automatic]**  
[プロット範囲] [縦横比] [自動]

In[174]:= `g1 = Clistplot[l1]`



In[175]:= `g0 = ContourPlot[x^2 + y^2 == 1, {x, -1.1, 1.1}, {y, -1.1, 1.1}];`  
[等高線プロット]

In[176]:= `Show[g0, g1]`  
[示す]



In[177]:= `Solve[{x^2 - y^2 == Sqrt[3]/2, 2 x y == 1/2}, {x, y}, Reals]`  
[解く] [平方根] [実数領域]

Out[177]=  $\left\{ \left\{ x \rightarrow -\frac{1}{2\sqrt{2-\sqrt{3}}}, y \rightarrow -\frac{1}{2}\sqrt{2-\sqrt{3}} \right\}, \left\{ x \rightarrow \frac{1}{2\sqrt{2-\sqrt{3}}}, y \rightarrow \frac{\sqrt{2-\sqrt{3}}}{2} \right\} \right\}$

In[178]:= **FullSimplify**[%]  
|完全に簡約

$$\text{Out[178]= } \left\{ \left\{ x \rightarrow -\frac{1}{2} \sqrt{2 + \sqrt{3}}, y \rightarrow \frac{1}{4} (\sqrt{2} - \sqrt{6}) \right\}, \left\{ x \rightarrow \frac{\sqrt{2 + \sqrt{3}}}{2}, y \rightarrow \frac{\sqrt{2 - \sqrt{3}}}{2} \right\} \right\}$$