

```
Needs["Developer`"];
moeglichstWurzelnImZaehler[ausdruck_] := Module[{erg = ausdruck, akt},
  erg = Replace[erg, Times[a_, Power[b_, Rational[-1, 2]]] ->
    HoldForm[Sqrt[b]] * a/b, {0, Infinity}]; akt = erg;
  If[Abs[N[ReleaseHold[Re[erg]]] - N[Re[ausdruck]]] > 0.001 (* Die Umstellung
    bereitet Mma Rechenschwierigkeiten *), erg = ausdruck; akt = ausdruck];
  erg = Replace[erg, Times[a_, Power[b_, Rational[-1, h_ /; h > 2]]] ->
    HoldForm[Power[b, Rational[1, h]]] * a/b, {0, Infinity}];
  If[Abs[N[ReleaseHold[Re[erg]]] - N[Re[ausdruck]]] > 0.001
    (* Die Umstellung bereitet Mma Rechenschwierigkeiten *), erg = akt];
  erg];
 $\omega[n_] := Quiet[
  Map[FullSimplify[TrigToRadicals[ComplexExpand[ToRadicals[#]]], ExcludedForms ->
    {etwas_ + Sqrt[d_], etwas_ - Sqrt[d_], etwas_ * Sqrt[d_], etwas_ / Sqrt[d_]}] &,
    Table[Root[#^n - 1 &, i], {i, 1, n}]]];
 $\omega$ Unsimpli[n_] := Quiet[Map[TrigToRadicals[ComplexExpand[ToRadicals[#]]] &,
  Table[Root[#^n - 1 &, i], {i, 1, n}]]];
 $\omega$ Tradi[n_] := Module[{erg}, erg = Quiet[
  Map[FullSimplify[TrigToRadicals[ComplexExpand[ToRadicals[#]]], ExcludedForms ->
    {etwas_ + Sqrt[d_], etwas_ - Sqrt[d_], etwas_ * Sqrt[d_], etwas_ / Sqrt[d_]}] &,
    Table[Root[#^n - 1 &, i], {i, 1, n}]]];
  Do[erg[[j]] = FixedPoint[Simplify[moeglichstWurzelnImZaehler[#]] &, erg[[j]]],
    {j, 1, Length[erg]}];
  erg];

Do[Print[n, "te Einheitswurzel bisher : "];
  Print[ $\omega$ [n] // TraditionalForm];
  Print[n, "te Einheitswurzel moeglichstWurzelnImZaehler : "];
  Print[ $\omega$ Tradi[n] // TraditionalForm];
  , {n, 3, 10}]$ 
```

3te Einheitswurzel bisher :

$$\left\{1, -\frac{1}{2} - \frac{i\sqrt{3}}{2}, -\frac{1}{2} + \frac{i\sqrt{3}}{2}\right\}$$

3te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{1, -\frac{1}{2}i(\sqrt{3} - i), \frac{1}{2}i(\sqrt{3} + i)\right\}$$

4te Einheitswurzel bisher :

$$\{-1, 1, -i, i\}$$

4te Einheitswurzel moeglichstWurzelnImZaehler :

$$\{-1, 1, -i, i\}$$

5te Einheitswurzel bisher :

$$\left\{1, -\frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \right. \\ \left. -\frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, -\frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}\right\}$$

5te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{ 1, \frac{1}{4} \left(-1 - \sqrt{5} - i \sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} \left(-1 - \sqrt{5} + i \sqrt{10 - 2\sqrt{5}} \right), \right. \\ \left. \frac{1}{4} \left(-1 + \sqrt{5} - i \sqrt{2(5 + \sqrt{5})} \right), \frac{1}{4} \left(-1 + \sqrt{5} + i \sqrt{2(5 + \sqrt{5})} \right) \right\}$$

6te Einheitswurzel bisher :

$$\left\{ -1, 1, -\frac{1}{2} - \frac{i\sqrt{3}}{2}, -\frac{1}{2} + \frac{i\sqrt{3}}{2}, \frac{1}{2} - \frac{i\sqrt{3}}{2}, \frac{1}{2} + \frac{i\sqrt{3}}{2} \right\}$$

6te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{ -1, 1, -\frac{1}{2}i(\sqrt{3} - i), \frac{1}{2}i(\sqrt{3} + i), \frac{1}{2}(1 - i\sqrt{3}), \frac{1}{2}(1 + i\sqrt{3}) \right\}$$

7te Einheitswurzel bisher :

$$\left\{ 1, \left(3 - 5i\sqrt{7} - 3i\sqrt{3}(-1 - i\sqrt{7}) - 4\sqrt[3]{47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7}))} + \right. \right. \\ \left. \sqrt[3]{47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7}))} \right. \\ \left. \left(4i\sqrt{7} + \sqrt[3]{47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7}))} \right) \right) - \\ 3 \left(1 + i\sqrt{7} + \left(47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7})) \right)^{2/3} - \right. \\ \left. i\sqrt{3} \left(3 - 5i\sqrt{7} + 2 \left(47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7})) \right)^{2/3} \right) \right) \Bigg/ \\ \left(24\sqrt[3]{47 - 13i\sqrt{7} + 3i\sqrt{3}(4i\sqrt{7} + i\sqrt{3}(-1 - i\sqrt{7}))} \right), \\ \left(-3 - 5i\sqrt{7} - 12(-1 - i\sqrt{7}) + 9(-1 + i\sqrt{7}) + 6i\sqrt{3}(-1 + i\sqrt{7}) - \right. \\ 8\sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} + \\ 4\sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} \\ \left. \left(-2i\sqrt{7} - \sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} \right) + \right. \\ \left. 2i\sqrt{3} \left(3 + 5i\sqrt{7} + 2 \left(47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3})) \right)^{2/3} \right) \right) \Bigg/ \\ \left(48\sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} \right), \\ \left(3 + 5i\sqrt{7} - 3i\sqrt{3}(-1 + i\sqrt{7}) - \right. \\ 4\sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} + \\ \left. \sqrt[3]{47 + 13i\sqrt{7} + 3i\sqrt{3}(-i\sqrt{3} - 2i\sqrt{7} + i\sqrt{7}(-2 + i\sqrt{3}))} \right) \right\}$$

$$\begin{aligned}
& \left(-4 \, i \sqrt{7} + \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} \right) - \\
& 3 \left(1 - i \sqrt{7} + \left(47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right) \right)^{2/3} - \right. \\
& \left. i \sqrt{3} \left(3 + 5 \, i \sqrt{7} + 2 \left(47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right) \right)^{2/3} \right) \right) / \\
& \left(24 \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} \right), \\
& \left(-3 + 5 \, i \sqrt{7} - 3 \left(-1 - i \sqrt{7} \right) - 2 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} + \right. \\
& \left. \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right. \\
& \left. \left(2 \, i \sqrt{7} + 2 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right) \right) / \\
& \left(12 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right), \\
& \left(-3 - i \sqrt{7} - 3 \left(-1 + i \sqrt{7} \right) - 2 \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} + \right. \\
& \left. i \sqrt{7} \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} + \right. \\
& \left. 2 \left(47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right) \right)^{2/3} - \right. \\
& \left. i \sqrt{7} \left(4 + 3 \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} \right) \right) / \\
& \left(12 \sqrt[3]{47 + 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(-i \sqrt{3} - 2 \, i \sqrt{7} + i \sqrt{7} \left(-2 + i \sqrt{3} \right) \right)} \right), \\
& \left(-3 + 5 \, i \sqrt{7} + 9 \left(-1 - i \sqrt{7} \right) + 6 \, i \sqrt{3} \left(-1 - i \sqrt{7} \right) - 12 \left(-1 + i \sqrt{7} \right) - \right. \\
& \left. 8 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} + \right. \\
& \left. 4 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right. \\
& \left(2 \, i \sqrt{7} - \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right) + \\
& \left. 2 \, i \sqrt{3} \left(3 - 5 \, i \sqrt{7} + 2 \left(47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right) \right)^{2/3} \right) \right) / \\
& \left(48 \sqrt[3]{47 - 13 \, i \sqrt{7} + 3 \, i \sqrt{3} \left(4 \, i \sqrt{7} + i \sqrt{3} \left(-1 - i \sqrt{7} \right) \right)} \right) \}
\end{aligned}$$

7te Einheitswurzel moeglichstWurzelnImZaehler :

$$\begin{aligned}
& \left\{ 1, \right. \\
& \frac{-2\sqrt{7}(\sqrt{3} + i) + i 2^{2/3}(\sqrt{7} + i) \sqrt[3]{14 - i\sqrt{7} - 3\sqrt{21}} + \sqrt[3]{2}(-1 - i\sqrt{3}) (14 - i\sqrt{7} - 3\sqrt{21})^{2/3}}{6 \times 2^{2/3} \sqrt[3]{14 - i\sqrt{7} - 3\sqrt{21}}}, \\
& \frac{-2\sqrt{7}(\sqrt{3} - i) + 2^{2/3}(-1 - i\sqrt{7}) \sqrt[3]{14 + i\sqrt{7} + 3\sqrt{21}} + i \sqrt[3]{2}(\sqrt{3} + i) (14 + i\sqrt{7} + 3\sqrt{21})^{2/3}}{6 \times 2^{2/3} \sqrt[3]{14 + i\sqrt{7} + 3\sqrt{21}}}, \\
& \frac{2\sqrt{7}(\sqrt{3} + i) + 2^{2/3}(-1 - i\sqrt{7}) \sqrt[3]{14 + i\sqrt{7} + 3\sqrt{21}} + \sqrt[3]{2}(-1 - i\sqrt{3}) (14 + i\sqrt{7} + 3\sqrt{21})^{2/3}}{6 \times 2^{2/3} \sqrt[3]{14 + i\sqrt{7} + 3\sqrt{21}}}, \\
& \frac{1}{6} \left(-1 + i\sqrt{7} + 2^{2/3} \sqrt[3]{14 - i\sqrt{7} - 3\sqrt{21}} + \frac{2i\sqrt{7}}{\sqrt[3]{7 - \frac{i\sqrt{7}}{2} - \frac{3\sqrt{21}}{2}}} \right), \\
& \frac{1}{6} \left(-1 - i\sqrt{7} - \frac{2i\sqrt{7}}{\sqrt[3]{7 + \frac{i\sqrt{7}}{2} + \frac{3\sqrt{21}}{2}}} + 2^{2/3} \sqrt[3]{14 + i\sqrt{7} + 3\sqrt{21}} \right), \\
& \left. \frac{2\sqrt{7}(\sqrt{3} - i) + i 2^{2/3}(\sqrt{7} + i) \sqrt[3]{14 - i\sqrt{7} - 3\sqrt{21}} + i \sqrt[3]{2}(\sqrt{3} + i) (14 - i\sqrt{7} - 3\sqrt{21})^{2/3}}{6 \times 2^{2/3} \sqrt[3]{14 - i\sqrt{7} - 3\sqrt{21}}} \right\}
\end{aligned}$$

8te Einheitswurzel bisher :

$$\left\{ -1, 1, -\frac{1+i}{\sqrt{2}}, -\frac{1-i}{\sqrt{2}}, -i, i, \frac{1-i}{\sqrt{2}}, \frac{1+i}{\sqrt{2}} \right\}$$

8te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{ -1, 1, \left(-\frac{1}{2} - \frac{i}{2}\right)\sqrt{2}, \left(-\frac{1}{2} + \frac{i}{2}\right)\sqrt{2}, -i, i, \left(\frac{1}{2} - \frac{i}{2}\right)\sqrt{2}, \left(\frac{1}{2} + \frac{i}{2}\right)\sqrt{2} \right\}$$

9te Einheitswurzel bisher :

$$\begin{aligned}
& \left\{ 1, \frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, \frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, -\frac{1}{2} - \frac{i\sqrt{3}}{2}, -\frac{1}{2} + \frac{i\sqrt{3}}{2}, \right. \\
& \frac{1}{2}(-1 - i\sqrt{3}) \sqrt[3]{\frac{1}{2}(-1 + i\sqrt{3})}, \frac{1}{2} \sqrt[3]{\frac{1}{2}(-1 - i\sqrt{3})}(-1 + i\sqrt{3}), \\
& \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 - i\sqrt{3}} + i 2^{2/3} \sqrt{3} \sqrt[3]{-1 - i\sqrt{3}} - 2i\sqrt{3} \left(-\frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} - \frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} \right) - \right. \\
& \left. 2i\sqrt{3} \left(\frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} - \frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} \right) \right), \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 + i\sqrt{3}} - i 2^{2/3} \sqrt{3} \sqrt[3]{-1 + i\sqrt{3}} + \right. \\
& \left. 2i\sqrt{3} \left(-\frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} - \frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} \right) - 2i\sqrt{3} \left(\frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} - \frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}} \right) \right) \left. \right\}
\end{aligned}$$

9te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{ 1, \frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, \frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, -\frac{1}{2}i(\sqrt{3} - i), \frac{1}{2}i(\sqrt{3} + i), -\frac{1}{2}i(\sqrt{3} - i)\sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)}, \right. \\ \left. \frac{1}{2}i\sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)(\sqrt{3} + i)}, \sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)}, \sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)} \right\}$$

10te Einheitswurzel bisher :

$$\left\{ -1, 1, -\frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \right. \\ \frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, -\frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \\ \left. -\frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} \right\}$$

10te Einheitswurzel moeglichstWurzelnImZaehler :

$$\left\{ -1, 1, \frac{1}{4} \left(-1 - \sqrt{5} - i\sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} \left(-1 - \sqrt{5} + i\sqrt{10 - 2\sqrt{5}} \right), \right. \\ \frac{1}{4} \left(1 - \sqrt{5} - i\sqrt{2(5 + \sqrt{5})} \right), \frac{1}{4} \left(1 - \sqrt{5} + i\sqrt{2(5 + \sqrt{5})} \right), \frac{1}{4} \left(-1 + \sqrt{5} - i\sqrt{2(5 + \sqrt{5})} \right), \\ \left. \frac{1}{4} \left(-1 + \sqrt{5} + i\sqrt{2(5 + \sqrt{5})} \right), \frac{1}{4} \left(1 + \sqrt{5} - i\sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} \left(1 + \sqrt{5} + i\sqrt{10 - 2\sqrt{5}} \right) \right\}$$

Im folgenden querfeldbeet die Einheitswurzeln “möglichst mit Wurzeln im Zähler”

`Print[ωTradi[17] // TraditionalForm]`

$$\left\{ 1, \frac{1}{8} \left(- \left(15 + \sqrt{17} + \sqrt{34 - 2\sqrt{17}} + \right. \right. \right. \\ \left. \left. \left. \sqrt{2 \left(34 + 6\sqrt{17} + \sqrt{578 - 34\sqrt{17}} - \sqrt{34 - 2\sqrt{17}} - 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \right) \right. \\ \left. \sqrt{2 \left(15 + \sqrt{17} + \sqrt{2(17 - \sqrt{17})} + \right. \right. \right. \\ \left. \left. \left. \sqrt{2 \left(34 + 6\sqrt{17} - \sqrt{2(17 - \sqrt{17})} + \sqrt{34(17 - \sqrt{17})} - 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \right) \right) - \\ 2i \sqrt{ \left(8 - \sqrt{2 \left(15 + \sqrt{17} - \sqrt{34 - 2\sqrt{17}} + \right. \right. \right. \\ \left. \left. \left. \sqrt{2 \left(34 + 6\sqrt{17} - \sqrt{578 - 34\sqrt{17}} + \sqrt{34 - 2\sqrt{17}} + 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \right) \right) \right) \right\},$$

$$\begin{aligned}
& \frac{1}{8} \left(2 \, i \sqrt{\left(8 - \sqrt{2 \left(15 + \sqrt{17} - \sqrt{34 - 2 \sqrt{17}} + \right.} \right.} \right. \\
& \quad \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{578 - 34 \sqrt{17}} + \sqrt{34 - 2 \sqrt{17}} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \right) - \\
& \left(15 + \sqrt{17} + \sqrt{34 - 2 \sqrt{17}} + \right. \\
& \quad \left. \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{578 - 34 \sqrt{17}} - \sqrt{34 - 2 \sqrt{17}} - 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \\
& \sqrt{\left(2 / \left(15 + \sqrt{17} + \sqrt{2 \left(17 - \sqrt{17} \right)} + \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{2 \left(17 - \sqrt{17} \right)} + \sqrt{34 \left(17 - \sqrt{17} \right)} - 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \right) \right), \\
& \frac{1}{8} \left(\left(-15 + \sqrt{17} - \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{34 - 2 \sqrt{17}} - \sqrt{2 \left(17 + \sqrt{17} \right)} - \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \\
& \sqrt{\left(2 / \left(15 - \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{2 \left(17 - \sqrt{17} \right)} - \sqrt{2 \left(17 + \sqrt{17} \right)} - \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \right) - \\
& 2 \, i \sqrt{\left(8 - \sqrt{2 \left(15 - \sqrt{17} - \sqrt{2 \left(17 + \sqrt{17} \right)} + \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \right) \right) \right), \\
& \frac{1}{8} \left(\left(-15 + \sqrt{17} - \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right.
\end{aligned}$$

$$\begin{aligned}
& \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{34 - 2 \sqrt{17}} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \\
& \sqrt{\left(2 / \left(15 - \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{2 (17 - \sqrt{17})} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) + \\
& 2 \, i \sqrt{\left(8 - \sqrt{\left(2 \left(15 - \sqrt{17} - \sqrt{2 (17 + \sqrt{17})} + \right. \right. \right. \\
& \left. \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \right) \right) \right)}, \\
& \frac{1}{8} \left(\left(-15 + \sqrt{17} - \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{34 - 2 \sqrt{17}} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \\
& \sqrt{\left(2 / \left(15 - \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} - \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{2 (17 - \sqrt{17})} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \right) - \\
& i \left(17 + \sqrt{17} - \sqrt{2 (17 + \sqrt{17})} + \right. \\
& \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{34 - 2 \sqrt{17}} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \right) \\
& \sqrt{\left(2 / \left(17 + \sqrt{17} - \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} + 8 \sqrt{2 (17 - \sqrt{17})} - \sqrt{2 (17 + \sqrt{17})} - \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \right) \right),
\end{aligned}$$

$$\begin{aligned}
& \frac{1}{8} \left(\left(-15 + \sqrt{17} - \sqrt{2(17 + \sqrt{17})} + \right. \right. \\
& \quad \left. \sqrt{2 \left(34 - 6\sqrt{17} + 8\sqrt{34 - 2\sqrt{17}} - \sqrt{2(17 + \sqrt{17})} - \sqrt{34(17 + \sqrt{17})} \right)} \right) \\
& \quad \left. \sqrt{2 \left(15 - \sqrt{17} + \sqrt{2(17 + \sqrt{17})} - \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6\sqrt{17} + 8\sqrt{2(17 - \sqrt{17})} - \sqrt{2(17 + \sqrt{17})} - \sqrt{34(17 + \sqrt{17})} \right)} \right)} \right) + \\
& \quad i \left(17 + \sqrt{17} - \sqrt{2(17 + \sqrt{17})} + \right. \\
& \quad \left. \sqrt{2 \left(34 - 6\sqrt{17} + 8\sqrt{34 - 2\sqrt{17}} - \sqrt{2(17 + \sqrt{17})} - \sqrt{34(17 + \sqrt{17})} \right)} \right) \\
& \quad \left. \sqrt{2 \left(17 + \sqrt{17} - \sqrt{2(17 + \sqrt{17})} + \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6\sqrt{17} + 8\sqrt{2(17 - \sqrt{17})} - \sqrt{2(17 + \sqrt{17})} - \sqrt{34(17 + \sqrt{17})} \right)} \right)} \right) \Bigg), \\
& \frac{1}{8} \left(\left(-15 + \sqrt{17} + \sqrt{2(17 + \sqrt{17})} + \right. \right. \\
& \quad \left. \sqrt{2 \left(34 - 6\sqrt{17} - 8\sqrt{34 - 2\sqrt{17}} + \sqrt{2(17 + \sqrt{17})} + \sqrt{34(17 + \sqrt{17})} \right)} \right) \\
& \quad \left. \sqrt{2 \left(15 - \sqrt{17} - \sqrt{2(17 + \sqrt{17})} - \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6\sqrt{17} - 8\sqrt{2(17 - \sqrt{17})} + \sqrt{2(17 + \sqrt{17})} + \sqrt{34(17 + \sqrt{17})} \right)} \right)} \right) - \\
& \quad i \left(17 + \sqrt{17} + \sqrt{2(17 + \sqrt{17})} + \right.
\end{aligned}$$

$$\begin{aligned}
& \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \\
& \sqrt{\left(2 / \left(17 + \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 (17 - \sqrt{17})} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right)}, \\
& \frac{1}{8} \left(\left(-15 + \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right. \\
& \left. \sqrt{\left(2 / \left(15 - \sqrt{17} - \sqrt{2 (17 + \sqrt{17})} - \right. \right. \right. \\
& \left. \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 (17 - \sqrt{17})} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \right) + \\
& i \left(17 + \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} + \right. \\
& \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \\
& \sqrt{\left(2 / \left(17 + \sqrt{17} + \sqrt{2 (17 + \sqrt{17})} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 (17 - \sqrt{17})} + \sqrt{2 (17 + \sqrt{17})} + \sqrt{34 (17 + \sqrt{17})} \right)} \right) \right) \right)}, \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} - \sqrt{34 - 2 \sqrt{17}} - \right. \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{578 - 34 \sqrt{17}} + \sqrt{34 - 2 \sqrt{17}} + 8 \sqrt{2 (17 + \sqrt{17})} \right)} \right) \right)
\end{aligned}$$

$$\begin{aligned}
& \sqrt{\left(2/\left(15 + \sqrt{17} - \sqrt{2(17 - \sqrt{17})} - \right.\right. \\
& \quad \left.\left.\sqrt{2\left(34 + 6\sqrt{17} + \sqrt{2(17 - \sqrt{17})} - \sqrt{34(17 - \sqrt{17})} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right)\right) - \\
& \quad \text{i} \left(17 - \sqrt{17} + \sqrt{34 - 2\sqrt{17}} + \right. \\
& \quad \left.\sqrt{2\left(34 + 6\sqrt{17} - \sqrt{578 - 34\sqrt{17}} + \sqrt{34 - 2\sqrt{17}} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right) \\
& \sqrt{\left(2/\left(17 - \sqrt{17} + \sqrt{2(17 - \sqrt{17})} + \right.\right. \\
& \quad \left.\left.\sqrt{2\left(34 + 6\sqrt{17} + \sqrt{2(17 - \sqrt{17})} - \sqrt{34(17 - \sqrt{17})} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right)\right) \Bigg), \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} - \sqrt{34 - 2\sqrt{17}} - \right.\right. \\
& \quad \left.\left.\sqrt{2\left(34 + 6\sqrt{17} - \sqrt{578 - 34\sqrt{17}} + \sqrt{34 - 2\sqrt{17}} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right) \right. \\
& \sqrt{\left(2/\left(15 + \sqrt{17} - \sqrt{2(17 - \sqrt{17})} - \right.\right. \\
& \quad \left.\left.\sqrt{2\left(34 + 6\sqrt{17} + \sqrt{2(17 - \sqrt{17})} - \sqrt{34(17 - \sqrt{17})} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right)\right) + \\
& \quad \text{i} \left(17 - \sqrt{17} + \sqrt{34 - 2\sqrt{17}} + \right. \\
& \quad \left.\sqrt{2\left(34 + 6\sqrt{17} - \sqrt{578 - 34\sqrt{17}} + \sqrt{34 - 2\sqrt{17}} + 8\sqrt{2(17 + \sqrt{17})}\right)}\right) \\
& \sqrt{\left(2/\left(17 - \sqrt{17} + \sqrt{2(17 - \sqrt{17})} + \right.\right.
\end{aligned}$$

$$\begin{aligned}
& \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{2 \left(17 - \sqrt{17} \right)} - \sqrt{34 \left(17 - \sqrt{17} \right)} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \Bigg) \Bigg) \Bigg) , \\
& \frac{1}{8} \left(-i \left(17 + \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right. \\
& \quad \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \\
& \quad \left. \sqrt{2 / \left(17 + \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 \left(17 - \sqrt{17} \right)} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right)} \right) \Bigg) - \\
& \quad \left(-15 + \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \\
& \quad \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \\
& \quad \left. \sqrt{2 / \left(15 - \sqrt{17} - \sqrt{2 \left(17 + \sqrt{17} \right)} + \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 \left(17 - \sqrt{17} \right)} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right)} \right) \Bigg) \Bigg) , \\
& \frac{1}{8} \left(i \left(17 + \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right. \\
& \quad \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{34 - 2 \sqrt{17}} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right) \\
& \quad \left. \sqrt{2 / \left(17 + \sqrt{17} + \sqrt{2 \left(17 + \sqrt{17} \right)} - \right. \right. \\
& \quad \left. \left. \sqrt{2 \left(34 - 6 \sqrt{17} - 8 \sqrt{2 \left(17 - \sqrt{17} \right)} + \sqrt{2 \left(17 + \sqrt{17} \right)} + \sqrt{34 \left(17 + \sqrt{17} \right)} \right)} \right)} \right) \Bigg) -
\end{aligned}$$

$$\begin{aligned}
& \left(-15 + \sqrt{17} + \sqrt{2(17 + \sqrt{17})} - \right. \\
& \quad \left. \sqrt{2 \left(34 - 6\sqrt{17} - 8\sqrt{34 - 2\sqrt{17}} + \sqrt{2(17 + \sqrt{17})} + \sqrt{34(17 + \sqrt{17})} \right)} \right) \\
& \quad \sqrt{2 \left(15 - \sqrt{17} - \sqrt{2(17 + \sqrt{17})} + \right. \\
& \quad \left. \sqrt{2 \left(34 - 6\sqrt{17} - 8\sqrt{2(17 - \sqrt{17})} + \sqrt{2(17 + \sqrt{17})} + \sqrt{34(17 + \sqrt{17})} \right)} \right) \Bigg) \Bigg), \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} + \sqrt{34 - 2\sqrt{17}} - \right. \right. \\
& \quad \left. \sqrt{2 \left(34 + 6\sqrt{17} + \sqrt{578 - 34\sqrt{17}} - \sqrt{34 - 2\sqrt{17}} - 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \\
& \quad \sqrt{2 \left(15 + \sqrt{17} + \sqrt{2(17 - \sqrt{17})} - \right. \\
& \quad \left. \sqrt{2 \left(34 + 6\sqrt{17} - \sqrt{2(17 - \sqrt{17})} + \sqrt{34(17 - \sqrt{17})} - 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \Bigg) - \\
& \quad 2i \sqrt{8 - \sqrt{2 \left(15 + \sqrt{17} - \sqrt{34 - 2\sqrt{17}} - \right. \\
& \quad \left. \sqrt{2 \left(34 + 6\sqrt{17} - \sqrt{578 - 34\sqrt{17}} + \sqrt{34 - 2\sqrt{17}} + 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \Bigg) \Bigg) \Bigg), \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} + \sqrt{34 - 2\sqrt{17}} - \right. \right. \\
& \quad \left. \sqrt{2 \left(34 + 6\sqrt{17} + \sqrt{578 - 34\sqrt{17}} - \sqrt{34 - 2\sqrt{17}} - 8\sqrt{2(17 + \sqrt{17})} \right)} \right) \\
& \quad \sqrt{2 \left(15 + \sqrt{17} + \sqrt{2(17 - \sqrt{17})} - \right.
\end{aligned}$$

$$\begin{aligned}
& \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{2 \left(17 - \sqrt{17} \right)} + \sqrt{34 \left(17 - \sqrt{17} \right)} - 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \Bigg) \Bigg) + \\
& 2 \, i \sqrt{\left(8 - \sqrt{2 \left(15 + \sqrt{17} - \sqrt{34 - 2 \sqrt{17}} - \right. \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{578 - 34 \sqrt{17}} + \sqrt{34 - 2 \sqrt{17}} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \Bigg) \Bigg) \Bigg) \Bigg) , \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} - \sqrt{34 - 2 \sqrt{17}} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{578 - 34 \sqrt{17}} + \sqrt{34 - 2 \sqrt{17}} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \\
& \sqrt{2 \left(15 + \sqrt{17} - \sqrt{2 \left(17 - \sqrt{17} \right)} + \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{2 \left(17 - \sqrt{17} \right)} - \sqrt{34 \left(17 - \sqrt{17} \right)} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \Bigg) - \\
& 2 \, i \sqrt{\left(8 - \sqrt{2 \left(15 + \sqrt{17} + \sqrt{34 - 2 \sqrt{17}} - \right. \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{578 - 34 \sqrt{17}} - \sqrt{34 - 2 \sqrt{17}} - 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \Bigg) \Bigg) \Bigg) \Bigg) , \\
& \frac{1}{8} \left(\left(15 + \sqrt{17} - \sqrt{34 - 2 \sqrt{17}} + \right. \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} - \sqrt{578 - 34 \sqrt{17}} + \sqrt{34 - 2 \sqrt{17}} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \\
& \sqrt{2 \left(15 + \sqrt{17} - \sqrt{2 \left(17 - \sqrt{17} \right)} + \right. \\
& \left. \left. \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{2 \left(17 - \sqrt{17} \right)} - \sqrt{34 \left(17 - \sqrt{17} \right)} + 8 \sqrt{2 \left(17 + \sqrt{17} \right)} \right)} \right) \right) \Bigg) +
\end{aligned}$$

$$2 \, \mathfrak{i} \sqrt{\left(8 - \sqrt{2 \left(15 + \sqrt{17} + \sqrt{34 - 2 \sqrt{17}} - \sqrt{2 \left(34 + 6 \sqrt{17} + \sqrt{578 - 34 \sqrt{17}} - \sqrt{34 - 2 \sqrt{17}} - 8 \sqrt{2 \left(17 + \sqrt{17}\right)}\right)}\right)}\right)}$$

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$$\begin{aligned} & \left\{-1, 1, \frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \right. \\ & \frac{1}{8} \left(-2^{2/3} \sqrt[3]{-1 + \mathfrak{i} \sqrt{3}} + \mathfrak{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathfrak{i} \sqrt{3}} - 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\ & \left. \left. 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), \right. \\ & \frac{1}{8} \left(-2^{2/3} \sqrt[3]{-1 - \mathfrak{i} \sqrt{3}} - \mathfrak{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathfrak{i} \sqrt{3}} + 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\ & \left. \left. 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), -\frac{1}{2} - \frac{\mathfrak{i} \sqrt{3}}{2}, \right. \\ & -\frac{1}{2} + \frac{\mathfrak{i} \sqrt{3}}{2}, -\frac{1}{2} \sqrt[3]{\frac{1}{2} (-1 - \mathfrak{i} \sqrt{3})} (-1 + \mathfrak{i} \sqrt{3}), -\frac{1}{2} (-1 - \mathfrak{i} \sqrt{3}) \sqrt[3]{\frac{1}{2} (-1 + \mathfrak{i} \sqrt{3})}, \\ & \frac{1}{2} (-1 - \mathfrak{i} \sqrt{3}) \sqrt[3]{\frac{1}{2} (-1 + \mathfrak{i} \sqrt{3})}, \frac{1}{2} \sqrt[3]{\frac{1}{2} (-1 - \mathfrak{i} \sqrt{3})} (-1 + \mathfrak{i} \sqrt{3}), \\ & \frac{1}{2} - \frac{\mathfrak{i} \sqrt{3}}{2}, \frac{1}{2} + \frac{\mathfrak{i} \sqrt{3}}{2}, \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 - \mathfrak{i} \sqrt{3}} + \mathfrak{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathfrak{i} \sqrt{3}} - \right. \\ & \left. 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) - 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), \\ & \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 + \mathfrak{i} \sqrt{3}} - \mathfrak{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathfrak{i} \sqrt{3}} + 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) - \right. \\ & \left. \left. 2 \mathfrak{i} \sqrt{3} \left(-\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), -\frac{(-1 + \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, -\frac{(-1 - \mathfrak{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right\} \end{aligned}$$

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$$\left\{-1, 1, \frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, \frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, -\sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)}, -\sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)}, -\frac{1}{2}i(\sqrt{3} - i), \right. \\ \frac{1}{2}i(\sqrt{3} + i), \frac{1}{2}(1 - i\sqrt{3})\sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)}, \frac{1}{2}(1 + i\sqrt{3})\sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)}, \\ -\frac{1}{2}i(\sqrt{3} - i)\sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)}, \frac{1}{2}i\sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)}(\sqrt{3} + i), \frac{1}{2}(1 - i\sqrt{3}), \\ \left. \frac{1}{2}(1 + i\sqrt{3}), \sqrt[3]{-\frac{1}{2}i(\sqrt{3} - i)}, \sqrt[3]{\frac{1}{2}i(\sqrt{3} + i)}, -\frac{(-1 + i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}, -\frac{(-1 - i\sqrt{3})^{4/3}}{2\sqrt[3]{2}}\right\}$$

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$$\left\{-1, 1, -\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} - \frac{\sqrt{5}}{4}\right), -\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right), \right. \\ -\frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(-\frac{1}{4} - \frac{\sqrt{5}}{4}\right), \\ -\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \\ -i, i, -\frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, -\frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \\ \sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(-\frac{1}{4} - \frac{\sqrt{5}}{4}\right), \sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \\ \left. \frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} - \frac{\sqrt{5}}{4}\right), \sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(\frac{\sqrt{5}}{4} - \frac{1}{4}\right)\right\}$$

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$$\left\{-1, 1, -\frac{1}{4}i\left(-1 + \sqrt{5} - i\sqrt{2(5 + \sqrt{5})}\right), \frac{1}{4}i\left(-1 + \sqrt{5} + i\sqrt{2(5 + \sqrt{5})}\right), \right. \\ \frac{1}{4}\left(-1 - \sqrt{5} - i\sqrt{10 - 2\sqrt{5}}\right), \frac{1}{4}\left(-1 - \sqrt{5} + i\sqrt{10 - 2\sqrt{5}}\right), -\frac{1}{4}i\left(1 + \sqrt{5} - i\sqrt{10 - 2\sqrt{5}}\right), \\ \frac{1}{4}i\left(1 + \sqrt{5} + i\sqrt{10 - 2\sqrt{5}}\right), \frac{1}{4}\left(1 - \sqrt{5} - i\sqrt{2(5 + \sqrt{5})}\right), \frac{1}{4}\left(1 - \sqrt{5} + i\sqrt{2(5 + \sqrt{5})}\right), \\ -i, i, \frac{1}{4}\left(-1 + \sqrt{5} - i\sqrt{2(5 + \sqrt{5})}\right), \frac{1}{4}\left(-1 + \sqrt{5} + i\sqrt{2(5 + \sqrt{5})}\right), \\ \frac{1}{4}\left(\sqrt{10 - 2\sqrt{5}} - i(1 + \sqrt{5})\right), \frac{1}{4}\left(\sqrt{10 - 2\sqrt{5}} + i(1 + \sqrt{5})\right), \frac{1}{4}\left(1 + \sqrt{5} - i\sqrt{10 - 2\sqrt{5}}\right), \\ \left. \frac{1}{4}\left(1 + \sqrt{5} + i\sqrt{10 - 2\sqrt{5}}\right), \frac{1}{4}\left(\sqrt{2(5 + \sqrt{5})} - i(\sqrt{5} - 1)\right), \frac{1}{4}\left(\sqrt{2(5 + \sqrt{5})} + i(\sqrt{5} - 1)\right)\right\}$$

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$$\begin{aligned}
& \left\{ -1, 1, -\frac{1}{2} \mathbf{i} \left(-1 - \mathbf{i} \sqrt{3} \right) \sqrt[3]{\frac{1}{2} \left(-1 + \mathbf{i} \sqrt{3} \right)}, \frac{1}{2} \mathbf{i} \sqrt[3]{\frac{1}{2} \left(-1 - \mathbf{i} \sqrt{3} \right)} \left(-1 + \mathbf{i} \sqrt{3} \right), \right. \\
& \frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, -\frac{\mathbf{i}}{2} - \frac{\sqrt{3}}{2}, \frac{\mathbf{i}}{2} - \frac{\sqrt{3}}{2}, \\
& \frac{1}{8} \left(-2^{2/3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} + \mathbf{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} - 2 \mathbf{i} \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} - \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\
& \left. 2 \mathbf{i} \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} + \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) \right), \\
& \frac{1}{8} \left(-2^{2/3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} - \mathbf{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} + 2 \mathbf{i} \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} - \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\
& \left. 2 \mathbf{i} \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} + \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) \right), \\
& \frac{1}{8} \left(-\mathbf{i} 2^{2/3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} + 2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} - 2 \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} - \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) - \right. \\
& \left. 2 \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} + \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) \right), \\
& \frac{1}{8} \left(2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} - 2 \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} - \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\
& \left. \mathbf{i} \left(2^{2/3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} - 2 \mathbf{i} \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} + \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) \right) \right), \\
& -\frac{1}{2} - \frac{\mathbf{i} \sqrt{3}}{2}, -\frac{1}{2} + \frac{\mathbf{i} \sqrt{3}}{2}, \frac{\mathbf{i} \left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, -\frac{\mathbf{i} \left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, \\
& -\frac{1}{2} \sqrt[3]{\frac{1}{2} \left(-1 - \mathbf{i} \sqrt{3} \right)} \left(-1 + \mathbf{i} \sqrt{3} \right), \\
& -\frac{1}{2} \left(-1 - \mathbf{i} \sqrt{3} \right) \sqrt[3]{\frac{1}{2} \left(-1 + \mathbf{i} \sqrt{3} \right)}, -\mathbf{i}, \mathbf{i}, \\
& \frac{1}{2} \left(-1 - \mathbf{i} \sqrt{3} \right) \sqrt[3]{\frac{1}{2} \left(-1 + \mathbf{i} \sqrt{3} \right)}, \frac{1}{2} \sqrt[3]{\frac{1}{2} \left(-1 - \mathbf{i} \sqrt{3} \right)} \left(-1 + \mathbf{i} \sqrt{3} \right), \\
& \frac{\mathbf{i} \left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, -\frac{\mathbf{i} \left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}}, \frac{1}{2} - \frac{\mathbf{i} \sqrt{3}}{2}, \\
& \frac{1}{2} + \frac{\mathbf{i} \sqrt{3}}{2}, \frac{1}{8} \left(-\mathbf{i} 2^{2/3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} - 2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} + \right. \\
& \left. 2 \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} - \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) - 2 \sqrt{3} \left(-\frac{\left(-1 - \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} + \frac{\left(-1 + \mathbf{i} \sqrt{3} \right)^{4/3}}{2 \sqrt[3]{2}} \right) \right),
\end{aligned}$$

$$\begin{aligned}
& \frac{1}{8} \left(-2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} + 2 \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) + \right. \\
& \quad \left. \mathbf{i} \left(2^{2/3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} - 2 \mathbf{i} \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right) \right), \\
& \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} + \mathbf{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 - \mathbf{i} \sqrt{3}} - 2 \mathbf{i} \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) - \right. \\
& \quad \left. 2 \mathbf{i} \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), \\
& \frac{1}{8} \left(2^{2/3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} - \mathbf{i} 2^{2/3} \sqrt{3} \sqrt[3]{-1 + \mathbf{i} \sqrt{3}} + 2 \mathbf{i} \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} - \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) - \right. \\
& \quad \left. 2 \mathbf{i} \sqrt{3} \left(-\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} + \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}} \right) \right), -\frac{\mathbf{i}}{2} + \frac{\sqrt{3}}{2}, \frac{\mathbf{i}}{2} + \frac{\sqrt{3}}{2}, \\
& -\frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, -\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, -\frac{1}{2} \mathbf{i} \sqrt[3]{\frac{1}{2} (-1 - \mathbf{i} \sqrt{3})} (-1 + \mathbf{i} \sqrt{3}), \\
& \frac{1}{2} \mathbf{i} (-1 - \mathbf{i} \sqrt{3}) \sqrt[3]{\frac{1}{2} (-1 + \mathbf{i} \sqrt{3})} \}
\end{aligned}$$

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$$\begin{aligned}
& \{-1, 1, -\frac{1}{2} (\sqrt{3} - \mathbf{i}) \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, -\frac{1}{2} \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})} (\sqrt{3} + \mathbf{i}), \frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \\
& \frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \frac{1}{2} (-\sqrt{3} - \mathbf{i}), \frac{1}{2} (-\sqrt{3} + \mathbf{i}), -\sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, -\sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})}, \\
& -\mathbf{i} \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})}, \mathbf{i} \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, -\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i}), \frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i}), \frac{\mathbf{i} (-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \\
& -\frac{\mathbf{i} (-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \frac{1}{2} (1 - \mathbf{i} \sqrt{3}) \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})}, \frac{1}{2} (1 + \mathbf{i} \sqrt{3}) \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, -\mathbf{i}, \\
& \mathbf{i}, -\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i}) \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, \frac{1}{2} \mathbf{i} \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})} (\sqrt{3} + \mathbf{i}), \frac{\mathbf{i} (-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \\
& -\frac{\mathbf{i} (-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \frac{1}{2} (1 - \mathbf{i} \sqrt{3}), \frac{1}{2} (1 + \mathbf{i} \sqrt{3}), -\mathbf{i} \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, \mathbf{i} \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})}, \\
& \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})}, \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})}, \frac{1}{2} (\sqrt{3} - \mathbf{i}), \frac{1}{2} (\sqrt{3} + \mathbf{i}), -\frac{(-1 + \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \\
& -\frac{(-1 - \mathbf{i} \sqrt{3})^{4/3}}{2 \sqrt[3]{2}}, \frac{1}{2} \sqrt[3]{-\frac{1}{2} \mathbf{i} (\sqrt{3} - \mathbf{i})} (\sqrt{3} + \mathbf{i}), \frac{1}{2} (\sqrt{3} - \mathbf{i}) \sqrt[3]{\frac{1}{2} \mathbf{i} (\sqrt{3} + \mathbf{i})} \}
\end{aligned}$$

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$$\begin{aligned}
& \left\{ -1, 1, -\frac{1}{4}\sqrt{5-\sqrt{5}} - \frac{1+\sqrt{5}}{4\sqrt{2}} - i\left(-\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), \right. \\
& -\frac{1}{4}\sqrt{5-\sqrt{5}} - \frac{1+\sqrt{5}}{4\sqrt{2}} + i\left(-\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), i\left(\frac{1}{4} - \frac{\sqrt{5}}{4}\right) - \sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \\
& -\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(-\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \frac{1-\sqrt{5}}{4\sqrt{2}} - \frac{\sqrt{5+\sqrt{5}}}{4} - i\left(\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), \\
& \frac{1-\sqrt{5}}{4\sqrt{2}} - \frac{\sqrt{5+\sqrt{5}}}{4} + i\left(\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), -\frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \\
& -\frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\frac{1+i}{\sqrt{2}}, -\frac{1-i}{\sqrt{2}}, i\left(-\frac{1}{4} - \frac{\sqrt{5}}{4}\right) - \sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, -\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \\
& -\frac{1-\sqrt{5}}{4\sqrt{2}} - \frac{\sqrt{5+\sqrt{5}}}{4} - i\left(-\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), -\frac{1-\sqrt{5}}{4\sqrt{2}} - \frac{\sqrt{5+\sqrt{5}}}{4} + i\left(-\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), \\
& \frac{1}{4} - \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{1}{4} - \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{\sqrt{5-\sqrt{5}}}{4} - \frac{1+\sqrt{5}}{4\sqrt{2}} - i\left(\frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), \\
& \frac{\sqrt{5-\sqrt{5}}}{4} - \frac{1+\sqrt{5}}{4\sqrt{2}} + i\left(\frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), -i, i, \\
& -\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}} - i\left(\frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), -\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}} + i\left(\frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), \\
& -\frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, -\frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4} - i\left(-\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), \\
& \frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4} + i\left(-\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), i\left(-\frac{1}{4} - \frac{\sqrt{5}}{4}\right) + \sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \\
& \sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} + i\left(\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \frac{1-i}{\sqrt{2}}, \frac{1+i}{\sqrt{2}}, \frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}}, \\
& -\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4} - i\left(\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), -\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4} + i\left(\frac{1-\sqrt{5}}{4\sqrt{2}} + \frac{\sqrt{5+\sqrt{5}}}{4}\right), \\
& i\left(\frac{1}{4} - \frac{\sqrt{5}}{4}\right) + \sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}}, \sqrt{\frac{5}{8} + \frac{\sqrt{5}}{8}} + i\left(-\frac{1}{4} + \frac{\sqrt{5}}{4}\right), \\
& \left. \frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}} - i\left(-\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right), \frac{\sqrt{5-\sqrt{5}}}{4} + \frac{1+\sqrt{5}}{4\sqrt{2}} + i\left(-\frac{1}{4}\sqrt{5-\sqrt{5}} + \frac{1+\sqrt{5}}{4\sqrt{2}}\right) \right\}
\end{aligned}$$

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$$\begin{aligned}
& \left\{ -1, 1, \left(-\frac{1}{8} + \frac{i}{8} \right) \left(i \left(1 + \sqrt{5} \right) \sqrt{2} + 2 \sqrt{5 - \sqrt{5}} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left(i \left(1 + \sqrt{5} \right) \sqrt{2} - 2 \sqrt{5 - \sqrt{5}} \right), \right. \\
& -\frac{1}{4} i \left(-1 + \sqrt{5} - i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \frac{1}{4} i \left(-1 + \sqrt{5} + i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \\
& \frac{1}{8} \left((-1 + i) \left(-1 + \sqrt{5} \right) \sqrt{2} - (2 + 2i) \sqrt{5 + \sqrt{5}} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left(2i \sqrt{5 + \sqrt{5}} - (-1 + \sqrt{5}) \sqrt{2} \right), \\
& \frac{1}{4} \left(-1 - \sqrt{5} - i \sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} \left(-1 - \sqrt{5} + i \sqrt{10 - 2\sqrt{5}} \right), \left(-\frac{1}{2} - \frac{i}{2} \right) \sqrt{2}, \\
& \left(-\frac{1}{2} + \frac{i}{2} \right) \sqrt{2}, -\frac{1}{4} i \left(1 + \sqrt{5} - i \sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} i \left(1 + \sqrt{5} + i \sqrt{10 - 2\sqrt{5}} \right), \\
& \frac{1}{8} \left((1 - i) \left(-1 + \sqrt{5} \right) \sqrt{2} - (2 + 2i) \sqrt{5 + \sqrt{5}} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left((-1 + \sqrt{5}) \sqrt{2} + 2i \sqrt{5 + \sqrt{5}} \right), \\
& \frac{1}{4} \left(1 - \sqrt{5} - i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \frac{1}{4} \left(1 - \sqrt{5} + i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \\
& \left(\frac{1}{8} - \frac{i}{8} \right) \left(2 \sqrt{5 - \sqrt{5}} - i \left(1 + \sqrt{5} \right) \sqrt{2} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left(i \left(1 + \sqrt{5} \right) \sqrt{2} + 2 \sqrt{5 - \sqrt{5}} \right), -i, \\
& i, \left(-\frac{1}{8} - \frac{i}{8} \right) \left(i \left(1 + \sqrt{5} \right) \sqrt{2} + 2 \sqrt{5 - \sqrt{5}} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left(\left(1 + \sqrt{5} \right) \sqrt{2} + 2i \sqrt{5 - \sqrt{5}} \right), \\
& \frac{1}{4} \left(-1 + \sqrt{5} - i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \frac{1}{4} \left(-1 + \sqrt{5} + i \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \\
& \left(\frac{1}{8} + \frac{i}{8} \right) \left(-(-1 + \sqrt{5}) \sqrt{2} - 2i \sqrt{5 + \sqrt{5}} \right), \frac{1}{8} \left((2 + 2i) \sqrt{5 + \sqrt{5}} - (1 - i) \left(-1 + \sqrt{5} \right) \sqrt{2} \right), \\
& \frac{1}{4} \left(\sqrt{10 - 2\sqrt{5}} - i \left(1 + \sqrt{5} \right) \right), \frac{1}{4} \left(\sqrt{10 - 2\sqrt{5}} + i \left(1 + \sqrt{5} \right) \right), \left(\frac{1}{2} - \frac{i}{2} \right) \sqrt{2}, \\
& \left(\frac{1}{2} + \frac{i}{2} \right) \sqrt{2}, \frac{1}{4} \left(1 + \sqrt{5} - i \sqrt{10 - 2\sqrt{5}} \right), \frac{1}{4} \left(1 + \sqrt{5} + i \sqrt{10 - 2\sqrt{5}} \right), \\
& \left(\frac{1}{8} + \frac{i}{8} \right) \left((-1 + \sqrt{5}) \sqrt{2} - 2i \sqrt{5 + \sqrt{5}} \right), \frac{1}{8} \left((1 - i) \left(-1 + \sqrt{5} \right) \sqrt{2} + (2 + 2i) \sqrt{5 + \sqrt{5}} \right), \\
& \frac{1}{4} \left(-i \left(-1 + \sqrt{5} \right) + \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \frac{1}{4} \left(i \left(-1 + \sqrt{5} \right) + \sqrt{2 \left(5 + \sqrt{5} \right)} \right), \\
& \left. \frac{1}{8} \left((1 - i) \left(1 + \sqrt{5} \right) \sqrt{2} + (2 + 2i) \sqrt{5 - \sqrt{5}} \right), \left(\frac{1}{8} + \frac{i}{8} \right) \left(\left(1 + \sqrt{5} \right) \sqrt{2} - 2i \sqrt{5 - \sqrt{5}} \right) \right\}
\end{aligned}$$