

Find the values in standard form:

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{62} = \text{cis}^{62}(-135^\circ) = \text{cis}(-62 \times 135^\circ) = \text{cis}(2 \times 135^\circ) = -i$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{88} = 1$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{67} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{84} = 1$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{43} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{28} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{48} = 1$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{11} = \frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{24} = 1$$

$$\left(-\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{96} = 1$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{49} = \frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{78} = -1$$

$$\left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{14} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{21} = i$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{100} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{95} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{28} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{90} = -1$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{81} = i^{27} = -i$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{66} = i^{22} = -1$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{12} = 1$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{41} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{69} = -1$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{100} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{60} = 1$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{1\sqrt{2}}{2}\right)^{74} = -i$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{20} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{59} = -\frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{94} = i^{47} = -i$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{82} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{81} = -1$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{52} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{81} = (-i)^{27} = i$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{84} = 1$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{90} = -i$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{47} = \frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{93} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{50} = -\frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{89} = -\operatorname{cis}(30^\circ \times 5) = \frac{\sqrt{3}}{2} - i\frac{1}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{54} = 1$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{95} = \frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{33} = -\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$(-i)^{49} = -i$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{56} = 1$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{54} = -1$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{24} = 1$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{71} = -\frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{92} = -1$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{56} = 1$$

$$(i)^{96} = 1$$

$$(-i)^{38} = -1$$

$$\left(-\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{12} = 1$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{39} = \frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{93} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{95} = -\frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{84} = -1$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{45} = -1$$

$$\left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{55} = \frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{60} = -1$$

$$\left(\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{86} = -\frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$\left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{75} = -1$$

$$\left(-\frac{1}{2} - i\frac{\sqrt{3}}{2}\right)^{65} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{53} = -\frac{\sqrt{3}}{2} - i\frac{1}{2}$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{97} = -\frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{36} = -1$$

$$\left(\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{41} = \frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(-\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right)^{34} = i^{17} = i$$

$$(-i)^{35} = i$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{84} = 1$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{52} = \text{cis}(-30^\circ \times 4) = -\frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{33} = 1$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{80} = 1$$

$$\left(\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{85} = \frac{\sqrt{3}}{2} - i\frac{1}{2}$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{83} = -\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}$$

$$(-i)^{68} = 1$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{19} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$(-i)^{66} = -1$$

$$(i)^{96} = 1$$

$$(i)^{66} = -1$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{73} = -\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{40} = -\frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{60} = 1$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{89} = -\frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(-\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{50} = -\frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$(i)^{99} = -i$$

$$(i)^{93} = i$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{83} = -\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}$$

$$(i)^{82} = -1$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{25} = -\frac{\sqrt{3}}{2} - i\frac{1}{2}$$

$$\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{39} = -\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{50} = \frac{1}{2} - i\frac{\sqrt{3}}{2}$$

$$(i)^{40} = 1$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{30} = -1$$

$$\left(\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right)^{100} = -1$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{19} = \frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(-\frac{\sqrt{3}}{2} - i\frac{1}{2}\right)^{90} = -1$$

$$\left(-\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{30} = -1$$

$$(i)^{40} = 1$$

$$\left(\frac{\sqrt{3}}{2} + i\frac{1}{2}\right)^{89} = -\frac{\sqrt{3}}{2} + i\frac{1}{2}$$

$$\left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right)^{30} = 1$$