

$$\frac{|3.32|}{2} \left(1 - \frac{\sqrt{3}-i}{2}\right)^{24} = \left(\frac{2-\sqrt{3}+i}{2}\right)^{24}$$

$$r = \sqrt{\left(\frac{2-\sqrt{3}}{2}\right)^2 + \left(\frac{1}{2}\right)^2} = \sqrt{\frac{7-4\sqrt{3}}{4} + \frac{1}{4}} = \sqrt{\frac{8-4\sqrt{3}}{4}} = \sqrt{2-\sqrt{3}}$$

$$\tan \theta = \frac{\frac{1}{2}}{\frac{2-\sqrt{3}}{2}} = \frac{1}{2-\sqrt{3}} \rightarrow \theta = 75^\circ$$

$$\left(\sqrt{2-\sqrt{3}} \operatorname{cis} 75^\circ\right)^{24} = (2-\sqrt{3})^{12} \operatorname{cis} 0 = (2-\sqrt{3})^{12}$$