

3.95  
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$$W = \left( \frac{\sqrt{3}i+1}{\sqrt{3}-i} \right)^{12} = \left( \frac{2e^{i\pi/6}}{2e^{i(-\pi/3)}} \right)^{12} = (e^{i\pi/2})^{12} = (i)^{12} = 1$$

$$|w|=1 \quad \arg w=0$$

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$$4 \geq |z+i| \rightarrow 16 \geq x^2 + (y+1)^2$$

$$4 > |\operatorname{Im} z|^2 \rightarrow 4 > 2xy \rightarrow \frac{2}{x} > y$$

$$|z| \geq 1 \rightarrow x^2 + y^2 \geq 1$$

