

3.61
k8

$$|z-2i| \leq |z+1|$$

$$|x+iy-2i| \leq |x+1+iy| \rightarrow (x)^2+(y-2)^2 \leq (x+1)^2+y^2$$

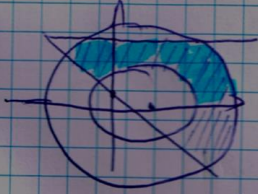
$$-\frac{x}{2} + \frac{3}{4} \leq y$$

$$\leftarrow -2y+4 \leq 2x+1 \leftarrow$$

$$2 \leq |z-1| \leq 3$$

$$2 \leq |x-1+iy| \leq 3 \rightarrow 4 \leq (x-1)^2+y^2 \leq 9$$

$$0 < \operatorname{Im} z < \sqrt{5} \rightarrow 0 < y < \sqrt{5}$$



3.6A
k9

$$(z^3+i)^2 - 1 = 0 \rightarrow (z^3+i)^2 = 1$$

$$z^3+i=1, \quad z^3+i=-1$$

$$z^3=1-i$$

$$z^3=-1-i$$

$$z^3=\sqrt{2} \operatorname{cis} 315$$

$$z^3=\sqrt{2} \operatorname{cis} 225$$

$$z_1 = \sqrt[6]{2} \operatorname{cis} (105+120k)$$

$$z_2 = \sqrt[6]{2} \operatorname{cis} (75+120k)$$