

4.21  
p8

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

4.21  
k9

$$z^4 = \left( \frac{1+i\sqrt{3}}{-1+i\sqrt{3}} \right)^3 = \left( \frac{2\text{cis}(60)}{2\text{cis}(120)} \right)^3 = (\text{cis}(-60))^3 = \text{cis}(-180) = \text{cis}(180)$$

$$z_k = \text{cis}\left(\frac{\pi}{4} + \frac{ik}{2}\right) \quad k=0,1,2,3$$

