

4.13
2

(1)

$$\theta = 2\pi \quad |w| = 1$$

$$(2) \quad z^4 = \frac{1+i}{1-i} = \frac{\sqrt{2} \operatorname{cis} 45}{\sqrt{2} \operatorname{cis} (-45)} = \operatorname{cis} 90 \Rightarrow z = \operatorname{cis} \left(\frac{\pi}{8} + \frac{\pi k}{2} \right) \quad k=0,1,2,3$$