

6.4  
p.8

$$\begin{aligned} \frac{(1+i)^{100}}{(1-i)^{96} \cdot (1+i)^{98}} &= \frac{(\sqrt{2} \operatorname{cis} 45)^{100}}{[\sqrt{2} \operatorname{cis} (-45)]^{96} \cdot \operatorname{cis} 90 \cdot (\sqrt{2} \operatorname{cis} 45)^{98}} = \\ &= \frac{2^{50} \operatorname{cis} 180}{2^{48} \operatorname{cis} 0 \cdot \operatorname{cis} 90 \cdot 2^{49} \operatorname{cis} 90} = \frac{-2^{50}}{2^{48} \cdot 2^{49} \operatorname{cis} 180} = \frac{-2^{50}}{2^{48} \cdot 2^{49}} = \frac{-2^{50}}{2^{48}(1+2^2)} = \\ &= \frac{-2^{50}}{9 \cdot 2^{48}} = \frac{-2^2}{9} = \frac{-4}{9} \end{aligned}$$