

$$z^n = 5i$$

$$\Leftrightarrow$$

$$r^n (\cos(nv) + i \sin(nv)) = 5 \left(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2} \right)$$

$$\Leftrightarrow$$

$$\begin{cases} r = 5^{1/n} \\ nv = \frac{\pi}{2} + \underbrace{m2\pi} \end{cases} \quad \& \text{obs } n \text{ upptaget}$$

$$\Leftrightarrow$$

$$r = 5^{1/n}$$

$$v = \frac{\pi}{2n} + \frac{2m\pi}{n}$$

Så

$$z = 5^{1/n} \left(\cos \left(\frac{\pi}{2n} + \frac{2m\pi}{n} \right) + i \sin \left(\frac{\pi}{2n} + \frac{2m\pi}{n} \right) \right)$$

$$m = 0, \dots, n-1$$