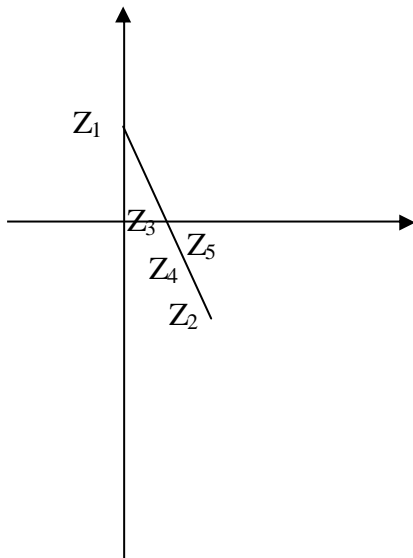


# Complex Variable 作業 7 2006 Full due to Dec.13.2006

單號(幾何方法)



$$Z_1 = -2i$$

$$Z_2 = 1 - i$$

$$Z_n = \frac{1}{2}(Z_{n-1} + Z_{n-2}), n \geq 3$$

Please find

$$\lim_{n \rightarrow \infty} Z_n = ?$$

雙號(矩陣)

$$\begin{bmatrix} Z_2 \\ Z_3 \end{bmatrix} = [?] \begin{bmatrix} Z_1 \\ Z_2 \end{bmatrix}$$

$$\begin{bmatrix} Z_3 \\ Z_4 \end{bmatrix} = [?] \begin{bmatrix} Z_2 \\ Z_3 \end{bmatrix}$$

$$\begin{bmatrix} Z_4 \\ Z_5 \end{bmatrix} = [?] \begin{bmatrix} Z_3 \\ Z_4 \end{bmatrix}$$

⋮  
⋮  
⋮

$$\begin{bmatrix} Z_n \\ Z_{n+1} \end{bmatrix} = [?] \begin{bmatrix} Z_{n-1} \\ Z_n \end{bmatrix}$$

$$[?] = \begin{pmatrix} 0 & 1 \\ \frac{1}{2} & \frac{1}{2} \end{pmatrix}$$