22.

$$A = \begin{bmatrix} \dfrac{\sqrt{3}}{2} & -\dfrac{1}{2} \\ \dfrac{1}{2} & \dfrac{\sqrt{3}}{2} \end{bmatrix} = \begin{bmatrix} \cos 30° & -\sin 30° \\ \sin 30° & \cos 30° \end{bmatrix}$$

$$\Rightarrow A^n = \begin{bmatrix} \cos 30° \times n & -\sin 30° \times n \\ \sin 30° \times n & \cos 30° \times n \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} \cos 360° & -\sin 360° \\ \sin 360° & \cos 360° \end{bmatrix}$$

$$\therefore n = 12$$

24. $D$ 點

$$\begin{pmatrix} x-3 \\ y-2 \end{pmatrix} = \begin{pmatrix} \cos(-90°) & \sin(-90°) \\ -\sin(-90°) & \cos(-90°) \end{pmatrix} \begin{pmatrix} 7-3 \\ 3-2 \end{pmatrix} \Rightarrow \begin{pmatrix} x-3 \\ y-2 \end{pmatrix} = \begin{pmatrix} -1 \\ 4 \end{pmatrix} \Rightarrow \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

25.

$$y^n = \left( \dfrac{1+i}{1+\sqrt{3}i} \right)^n = \left( \dfrac{1}{\sqrt{2}} \right)^n \cos(-15° \times n) + \sin(-15° \times n)$$

$n = 8 \Rightarrow 120°$

$n = 10 \Rightarrow 150°$

選項代入 $\quad n = 12 \Rightarrow 180°$ ，因為要為實數，所以角度為 $180°$

$n = 14 \Rightarrow 210°$