

$$\boxed{3.35} \quad 4 \quad \textcircled{c} \quad T_{k+1} = \binom{n}{k} a^{n-k} b^k$$

האיבר ה- k בסדרת הבינום

$$T_7 = \binom{12}{6} ((1+i)^5)^6 ((\sqrt{3}+i)^7)^6$$

$$= \binom{12}{6} (\sqrt{2} \operatorname{cis} 45)_{30} (2 \operatorname{cis} 30)_{42} = \binom{12}{6} 2^{75} \operatorname{cis} 270 \cdot 2^{42} \operatorname{cis} 180$$

$$= \binom{12}{6} 2^{57} \operatorname{cis} 90 = \binom{12}{6} 2^{57} i = 924 \cdot 2^{57} i = 231 \cdot 2^{59} i$$

$$\textcircled{2} \quad |z-2i| = |z|$$

$$z = x+iy$$

$$|x+i(y-2)| = |x+iy|$$

$$\sqrt{x^2+(y-2)^2} = \sqrt{x^2+y^2}$$

$$x^2+y^2-4y+4 = x^2+y^2$$

$$4y=4$$

$$\boxed{y=1}$$