

✓

$$2(1 + 5\omega + 10\omega^2 + 10\omega^3 + 5\omega^4 + 2)$$

$$2(3 + 5x + 5\omega x + 5\omega^2 x)$$

$$-2|z|^2 = \frac{1+y}{x} + \frac{x}{y} = \frac{1+|z|^2}{xy}$$

$$x^3 - 3xy^2 + i(3x^2y - y^3) + i(x + iy) = 1$$

$$x^3 - 3xy^2 - y = 1$$

$$3x^2y - y^3 + x = 0$$

$$x^2 - 3y^2 = \frac{1+y}{x}$$

$$3x^2 - y^2 = -\frac{x}{y}$$

✗

$$f(z) = (z-i)Q_1(z) + i$$

$$f(i) = i$$

$$f(z) = (z+i)Q_2(z) + 1+i$$

$$f(-i) = 1+i$$

$$f(z) = (z+i)(z-i)Q(z) + az+b$$

$$i = ai+b$$

$$1+i = -ai+b$$

$$\begin{aligned}
& \frac{1}{2} \left| (z_1 + z_2) + \frac{|z_1|z_2}{|z_2|} + \frac{|z_2|z_1}{|z_1|} \right| \\
&= \frac{1}{2} \left| (z_1 + z_2) + \frac{z_1 \bar{z}_1 z_2 + z_2 \bar{z}_2 z_1}{|z_1||z_2|} \right| \\
&= \frac{1}{2} \left| (z_1 + z_2) + \frac{z_1 z_2 (\bar{z}_1 + \bar{z}_2)}{|z_1||z_2|} \right| \leq \frac{1}{2} \left[|z_1 + z_2| + \underbrace{|z_1 + z_2|} \right]
\end{aligned}$$

$$|a_0 z^n + a_1 z^{n-1} + a_2 z^{n-2} + \dots + a_{n-1} z + a_n| = n$$

$$\leq |a_0| |z|^n + |a_1| |z|^{n-1} + |a_2| |z|^{n-2} + \dots + |a_{n-1}| |z| + |a_n|$$

$$\leq |z|^n + |z|^{n-1} + |z|^{n-2} + \dots + |z| + 1$$

$$< 1 + |z| + |z|^2 + |z|^3 + \dots = \infty$$

$\Sigma x - \text{II (nem.)}$

$\Sigma x - \text{III (.)}$

Case I $0 < |z| < 1$

$$\frac{1}{1-|z|} > n$$

$$\Rightarrow$$

$$|z| > 1 - \frac{1}{n}$$

Case II

$$|z| \geq 1$$

$$|z| > \left(\frac{n-1}{n} \right)$$