399 $x^2-(2+2i)x+2i-1=0$ $[i, 2+i]$

$$\Delta = (2+2i)^2 - 4(2i-1) = \cancel{4} - \cancel{4} + \cancel{8i} - \cancel{8i} + 4 = 4$$

$$x = \frac{2+2i \pm 2}{2} = \begin{cases} \frac{2i}{2} = i \\ \frac{2+2i+2}{2} = \frac{4+2i}{2} = 2+i \end{cases}$$

$$\boxed{x = i \quad \vee \quad x = 2+i}$$

397 $x^3-8i=0$ $[i \pm \sqrt{3}, -2i]$

$x^3 = 8i$

Calcolo le 3 radici cubiche di $8i = 8\left(\cos\frac{\pi}{2} + i \sin\frac{\pi}{2}\right)$

$$z_0 = \sqrt[3]{8}\left(\cos\frac{\pi}{6} + i \sin\frac{\pi}{6}\right) = 2\left(\frac{\sqrt{3}}{2} + i \cdot \frac{1}{2}\right) = \sqrt{3} + i$$

$$z_1 = \sqrt[3]{8}\left(\cos\left(\frac{\pi}{6} + \frac{2}{3}\pi\right) + i \sin\left(\frac{\pi}{6} + \frac{2}{3}\pi\right)\right) =$$

$$= 2\left(\cos\frac{5}{6}\pi + i \sin\frac{5}{6}\pi\right) = 2\left(-\frac{\sqrt{3}}{2} + i \cdot \frac{1}{2}\right) = -\sqrt{3} + i$$

$$z_2 = \sqrt[3]{8}\left(\cos\left(\frac{\pi}{6} + \frac{4}{3}\pi\right) + i \sin\left(\frac{\pi}{6} + \frac{4}{3}\pi\right)\right) =$$

$$= 2\left(\cos\frac{3}{2}\pi + i \sin\frac{3}{2}\pi\right) = 2\left(0 + i \cdot (-1)\right) = -2i$$

$$\boxed{x = \pm\sqrt{3} + i \quad \vee \quad x = -2i}$$