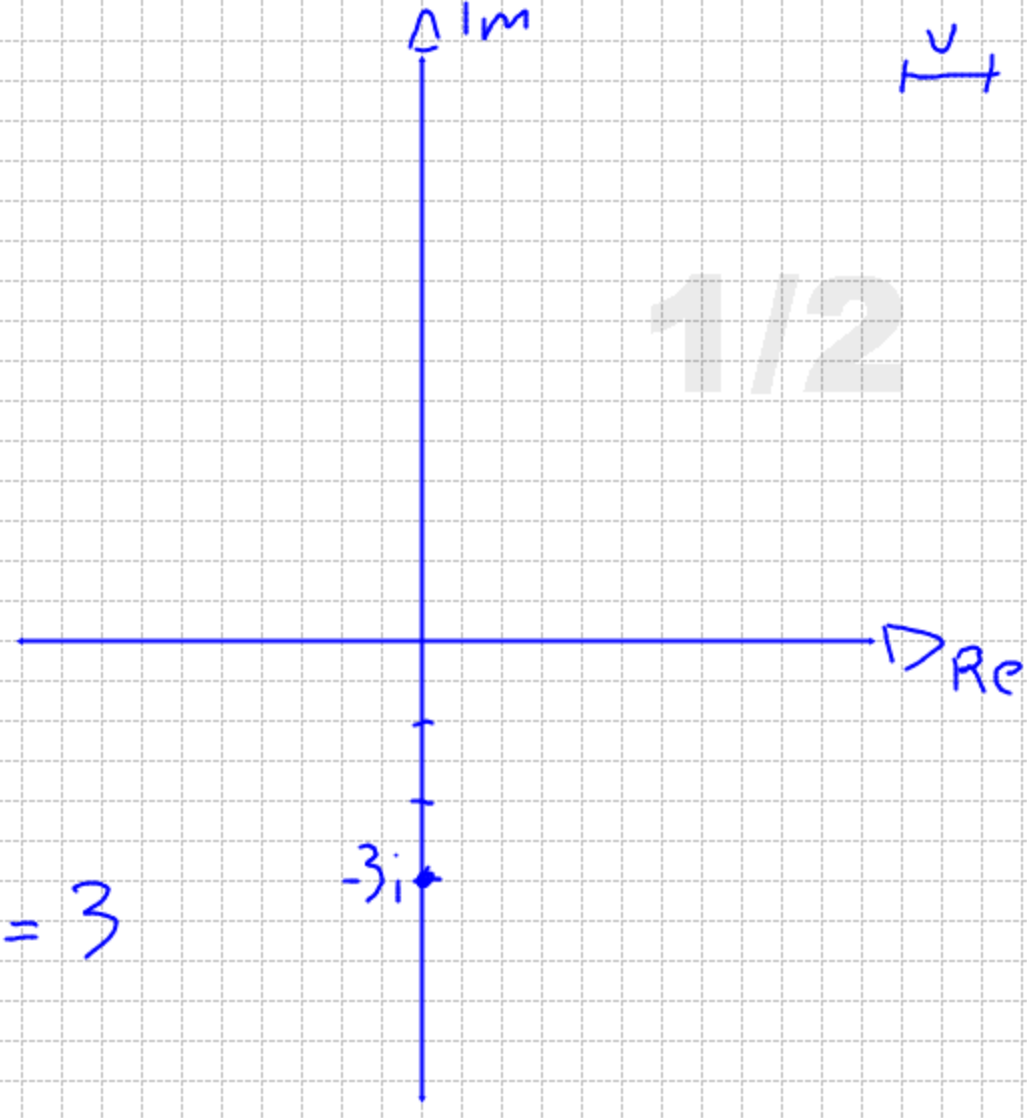
peg 166 n 75

$z = -3i$



$p = \sqrt{a^2+b^2} = 3$

$\cos\theta = 0$

$\operatorname{sen}\theta = \frac{b}{p} = -1$ $\quad \theta = \frac{3}{2}\pi$

$z = p(\cos\theta + i\operatorname{sen}\theta)$

$z = 3\left(\cos\frac{3}{2}\pi + i\operatorname{sen}\frac{3}{2}\pi\right)$

n·42 pag 162

$(1+i)^3 - 4i(1+2i)^2 = *$ $\qquad z^n = (a+ib)^n$

$1+i = ?$ $\quad p = \sqrt{1^2+1^2} = \sqrt{2}$

$\cos\theta = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$ $\quad \theta = \frac{\pi}{4}$ $\quad z = p(\cos\theta + i\operatorname{sen}\theta)$

$\operatorname{sen}\theta = \frac{\sqrt{2}}{2}$ $\quad z = \sqrt{2}\left(\cos\frac{\pi}{4} + i\operatorname{sen}\frac{\pi}{4}\right)$

$* = (\sqrt{2})^3\left(\cos\frac{3}{4}\pi + i\operatorname{sen}\frac{3}{4}\pi\right) - 4i(-3+4i)$

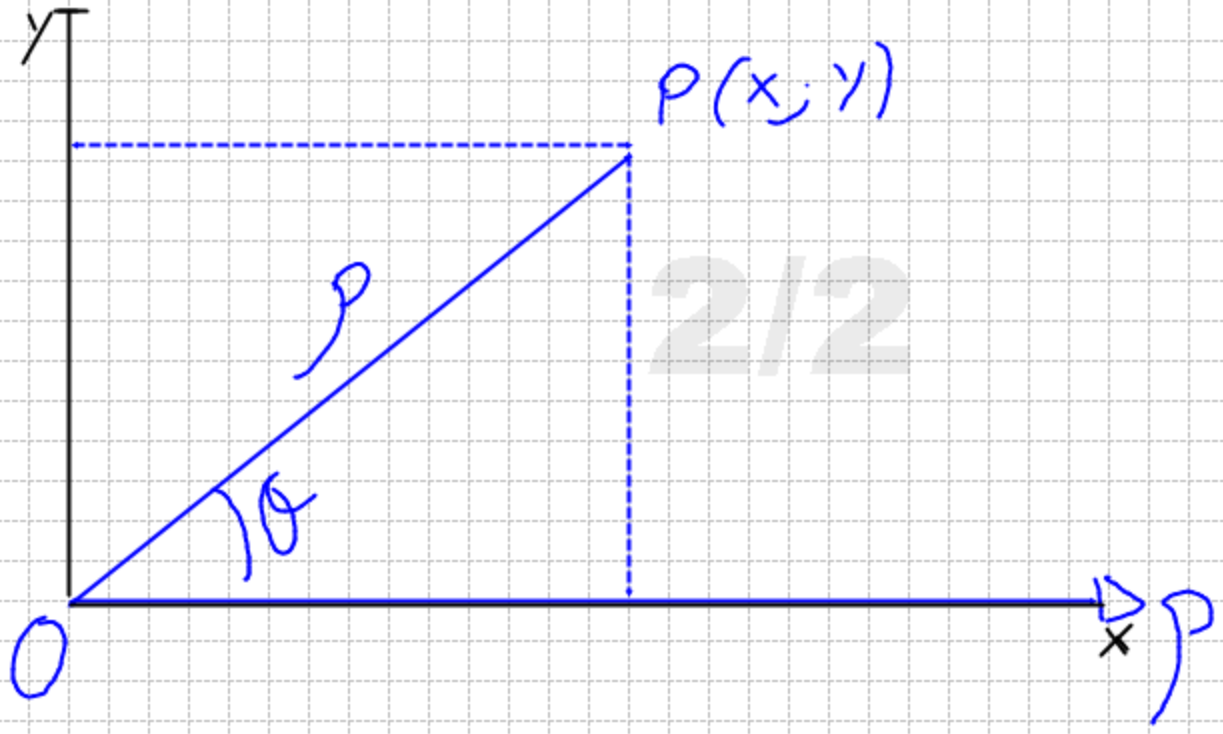
$= 2\sqrt{2}\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right) + 12i + 16 =$

$= -2 + 2i + 12i + 16 =$

$= 14i + 14 =$

n·67

$x^2 - y^2 = 1$



$x = \rho\cos\theta$

$y = \rho\operatorname{sen}\theta$

$\rho^2\cos^2\theta - \rho^2\operatorname{sen}^2\theta = 1$

$\rho^2(\cos^2\theta - \operatorname{sen}^2\theta) = 1$

n·118 ; 169

$z = i$

z^3 ?

$\sqrt[3]{z}$?

$\rho = \sqrt{a^2+b^2} = 1$

$\cos\theta = 0$

$\operatorname{sen}\theta = 1$

$\theta = \frac{\pi}{2}$

$z = \rho(\cos\theta + i\operatorname{sen}\theta)$

$z = \cos\frac{\pi}{2} + i\operatorname{sen}\frac{\pi}{2}$

$z^3 = 1\left(\cos\frac{3}{2}\pi + i\operatorname{sen}\frac{3}{2}\pi\right)$

$z^3 = -1i$

$\sqrt[3]{z} = \sqrt[3]{1}\left(\cos\frac{\frac{\pi}{2}+2k\pi}{3} + i\operatorname{sen}\frac{\frac{\pi}{2}+2k\pi}{3}\right)$

$w_1 = \frac{\sqrt{3}}{2} + \frac{1}{2}i \quad k=0$

$w_2 = -\frac{\sqrt{3}}{2} + \frac{1}{2}i \quad k=1$

$w_3 = -1i \quad k=2$

con $k = 0, 1, 2$