Cálculos Auxiliares

Transforme a su forma polar:

$$2 + 3j = \sqrt{2^2 + 3^2} < arctg\left(\frac{3}{2}\right) = 3.601 < 56.319°$$

$$-8 + 6.2j = \sqrt{8^2 + 6.2^2} < arctg\left(-\frac{8}{6.2}\right) = 10.121 < -52.224°$$

$$4.3 - 2.8j = \sqrt{4.3^2 + 2.8^2} < arctg\left(-\frac{4.3}{2.8}\right) = 5.131 < -56.929°$$

$$-6 + 3.2j = \sqrt{6^2 + 3.2^2} < arctg\left(-\frac{6}{3.2}\right) = 6.800 < -61.928°$$

Transforme a su forma rectangular:

$$36 < -10\,° = 36 * \cos(-10) + 36 * sen(-10)j = 35.45 - 6.25\ j$$

$$28.7 < 135\,° = 28.7 * \cos(135) + 28.7 * sen(135)j = -20.29 + 20.29\ j$$

$$11.2 < 28\,° = 11.2 * \cos(28) + 11.2 * sen(28)j = 9.89 + 5.26\ j$$

$$45 < -117.9\,° = 45 * \cos(-117.9) + 45 * sen(-117.9)j = -21.06 - 39.77\ j$$

Ejercicio 1:

- $\frac{10+3j}{2j} - (7 + 2j)(3\angle -115°) =$

$$\frac{(10 + 3j)(-j)}{2j(-j)} - (7 + 2j)(-1,26 - 2,71j)$$

$$\frac{3 - 10j}{2} - (-8.82 - 18.9j - 2.52j + 5.4)$$

$$1,5 - 5j - (-3.42 - 21.42j) = 4,92 + 16,42j$$

Forma rectangular:

= 4.92+16.42j

$$4,92 + 16,42j = \sqrt{x^2 + y^2} + Arc\ Tang(y/x)$$

$$4,92 + 16,42j = \sqrt{(4,92)^2 + (16,42)^2} + \frac{16,42}{4,92}$$

$$13.42 + 24.42j = 17,14\angle 73,31$$

$$3\angle -115° = r\cos\theta + j\,r\,sen\,\theta$$

$$= 3(-0.42) + j\,3(-0.90)$$

$$= -1.26 - 2.71\,j$$

Forma polar:

= 17.14<73.71

Ejercicio 2:

$$6,35 - 2,41j + \frac{2,17 + 3,93j}{7,6 - 1,2j}$$

$$6,35 - 2,41j + \frac{11,77 + 32,47j}{56,32}$$

$$6,35 - 2,41j + 0,20 + 0,57j$$

$$6,8 \angle 125,3° = 6,8cos(125,3) + 6,8sen(125,3)$$

$$6.8 \angle 125.3° = 6.35 - 2.41i$$

$$4,5 \angle -11,5° = 4,5cos(-11,5) + 4,5sen(-11,5)$$

$$4,5 \angle -11,5° = 2,17 + 3,93j$$

$$6,55 - 1,86j = \sqrt{6,55^2 + (-1,86)^2} + arc\,Tang(\frac{-1,86}{6,55})$$

Forma rectangular:

= 6.55 - 1.84j

Forma polar:

=6.8<0.27

Ejercicio 3:

$$\frac{34 + 28,5j}{-1,48 - 3,71j} - 10,12 - 50,18j$$

$$\frac{-156,05 + 83,96j}{15,95} - 10,12 - 50,18j$$

$$-9,78 + 5,26j - 10,12 - 50,18j$$

$$-51,2 \angle 215° = -51,2cos(215) + 51,2sen(215)$$

$$-51,2 \angle 215° = -10,12 - 50,18j$$

$$4\angle -20,8° = 4cos(-20,8) + 4sen(-20,8)$$

$$4\angle -20,8° = -1,48 - 3,71j$$

$$-19,9 - 44,91j = \sqrt{(-19,9)^2 + (-44,91)^2} + arc\,Tang(\frac{-44,91}{-19,9})$$

Forma rectangular:

= -19.9 – 44.91j

Forma polar:

=49.12<1.15