

Escribe en forma polar los siguientes números complejos :

a) $1 + \sqrt{3}i$, b) $\sqrt{3} + i$, c) $-1 + i$, d) $5 - 12i$, e) $3i$, f) -5

$$\text{a) } 1 + \sqrt{3}i \left\{ \begin{array}{l} \text{Módulo} = r = \sqrt{a^2 + b^2} = \sqrt{1 + (\sqrt{3})^2} = \sqrt{4} = 2 \\ \text{Argumento} = \alpha = \arctg \frac{b}{a} = \arctg \frac{\sqrt{3}}{1} = \arctg \sqrt{3} = 60^\circ \end{array} \right\} = 2_{60^\circ}$$

$$\text{b) } \sqrt{3} + i \left\{ \begin{array}{l} r = \sqrt{(\sqrt{3})^2 + 1^2} = \sqrt{4} = 2 \\ \alpha = \arctg \frac{1}{\sqrt{3}} = 30^\circ \end{array} \right\} = 2_{30^\circ}$$

$$\text{c) } -1 + i \left\{ \begin{array}{l} r = \sqrt{(-1)^2 + 1^2} = \sqrt{2} \\ \alpha = \arctg \frac{1}{-1} = 135^\circ \end{array} \right\} = \sqrt{2}_{135^\circ}$$

$$\text{d) } 5 - 12i \left\{ \begin{array}{l} r = \sqrt{5^2 + (-12)^2} = \sqrt{169} = 13 \\ \alpha = \arctg \frac{-12}{5} = 292^\circ 37' \end{array} \right\} = 13_{292^\circ 37'}$$

$$\text{e) } 3i \left\{ \begin{array}{l} r = \sqrt{3^2} = 3 \\ \alpha = \arctg \frac{3}{0} = 90^\circ \end{array} \right\} = 3_{90^\circ}$$

$$\text{f) } -5 \left\{ \begin{array}{l} r = 5 \\ \alpha = \arctg \frac{0}{-5} = 180^\circ \end{array} \right\} = 5_{180^\circ}$$