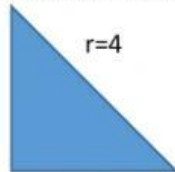


Name:

Complex Numbers:

Determine values of Re and Im in Cartesian form while $r=4$ and $\theta=135$ in the polar form:

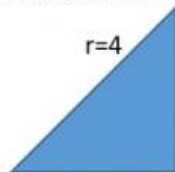


$$\text{-----} = r \cos(\theta)$$

$$\text{-----} = r \sin(\theta)$$

$$Z = \text{-----} + \text{-----}j$$

Determine values of Re and Im in Cartesian form while $r=4$ and $\theta=235$ in the polar form:

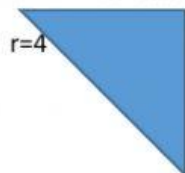


$$\text{-----} = r \cos(\theta)$$

$$\text{-----} = r \sin(\theta)$$

$$Z = \text{-----} + \text{-----}j$$

Determine values of Re and Im in Cartesian form while $r=4$ and $\theta=-35$ in the polar form:



$$\text{-----} = r \cos(\theta)$$

$$\text{-----} = r \sin(\theta)$$

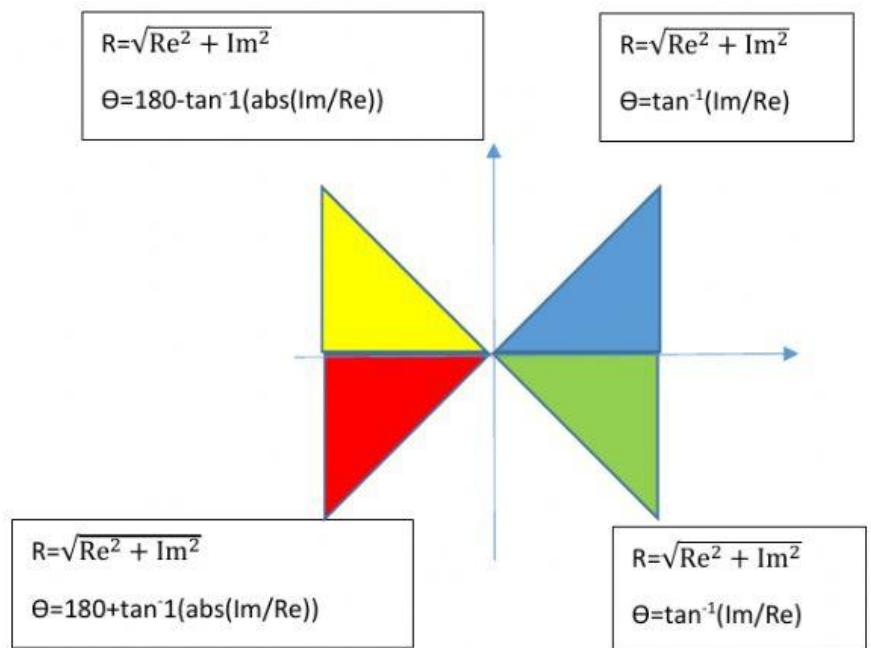
$$Z = \text{-----} + \text{-----}j$$

Determine values of r and θ in polar form while $Z=3+6j$

Determine values of r and θ in polar form while $Z=-3-6j$

Determine values of r and θ in polar form while $Z=-3-6j$

Determine values of r and θ in polar form while $Z=-3+6j$



Consider $Z_1=1-j$ and $Z_2=2-3j$ calculate:

- a) $Z_1 * Z_2$
- b) Convert Z_1 to the polar form
- c) Convert Z_2 to the polar form
- d) Multiply Z_1 and Z_2 in polar form and call it Z
- e) Convert Z to the Cartesian form
- f) Is the answer in e, the same as what you've got in a?

Consider $Z_1=1-j$ and $Z_2=2-3j$ calculate:

- a) Z_1 / Z_2
- b) Convert Z_1 to the polar form
- c) Convert Z_2 to the polar form
- d) divide Z_1 by Z_2 in polar form and call it Z
- e) Convert Z to the Cartesian form
- f) Is the answer in e, the same as what you've got in a?