

# **Guessmaths**

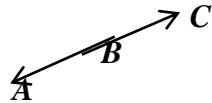
## **Fiche de cours 2 « Les nombres complexes » Bac PC**

$$Z_D - Z_C = k(Z_B - Z_A) \Leftrightarrow \overrightarrow{CD} = k\overrightarrow{AB} \Leftrightarrow (AB) \parallel (CD)$$

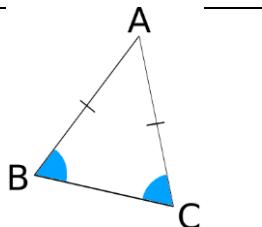


$$Z_D - Z_B = k(Z_B - Z_A) \Leftrightarrow \overrightarrow{CD} = k\overrightarrow{AB} \Leftrightarrow$$

**A, B et C sont alignés**

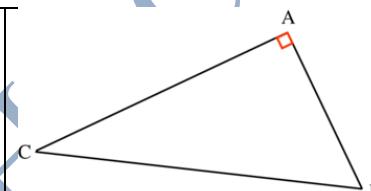


$$\frac{Z_C - Z_A}{Z_B - Z_A} = re^{i\theta} \Leftrightarrow \left( \frac{AC}{AB} = r \text{ et } (\overrightarrow{AB}; \overrightarrow{AC}) \equiv \theta [2\pi] \right)$$



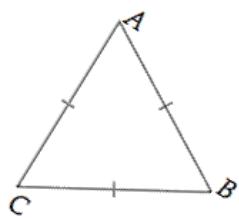
$$\Leftrightarrow \left| \frac{Z_C - Z_A}{Z_B - Z_A} \right| = 1$$

$$\arg \left( \frac{Z_C - Z_A}{Z_B - Z_A} \right) = \pm \frac{\pi}{2} [2\pi] \Leftrightarrow$$



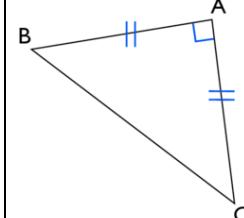
**TRIANGLE ISOCELE**

**TRIANGLE RECTANGLE**



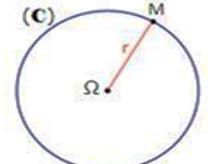
$$\Leftrightarrow \frac{Z_C - Z_A}{Z_B - Z_A} = e^{\pm i\frac{\pi}{3}}$$

$$\frac{Z_C - Z_A}{Z_B - Z_A} = e^{\pm i\frac{\pi}{2}} \Leftrightarrow$$



**TRIANGLE équilatéral**

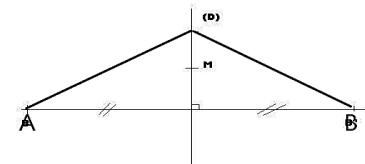
**RECTANGLE ISOCELE**



$$M(z) \in C \Leftrightarrow |Z - Z_\Omega| = r$$

$$M(z) \in C$$

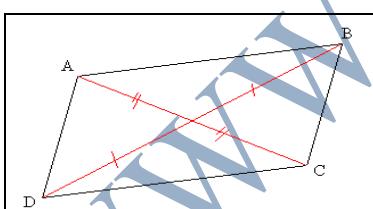
$$\Leftrightarrow |Z - Z_A| = |Z - Z_B|$$



*Ensemble de point « CERCLE »*

*Ensemble de point « LA MEDIANE »*

**PARALLELOGRAMME**

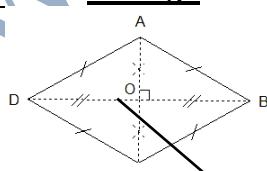


•  $(ABCD \text{ est un parallélogramme}) \Leftrightarrow \overrightarrow{AB} = \overrightarrow{CD} \Leftrightarrow Z_B - Z_A = Z_C - Z_D$

$(ABCD \text{ est un parallélogramme}) \Leftrightarrow [AC] \text{ et } [BD] \text{ ont même milieu}$

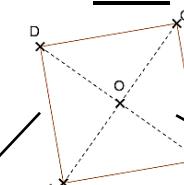
$$\Leftrightarrow \frac{Z_A + Z_C}{2} = \frac{Z_B + Z_D}{2}$$

**Losange**



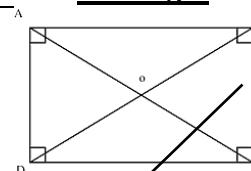
Parallélogramme dont les diagonales sont perpendiculaires

**Carré**



Parallélogramme dont les diagonales sont perpendiculaires

**Rectangle**



Parallélogramme dont les diagonales sont isométriques