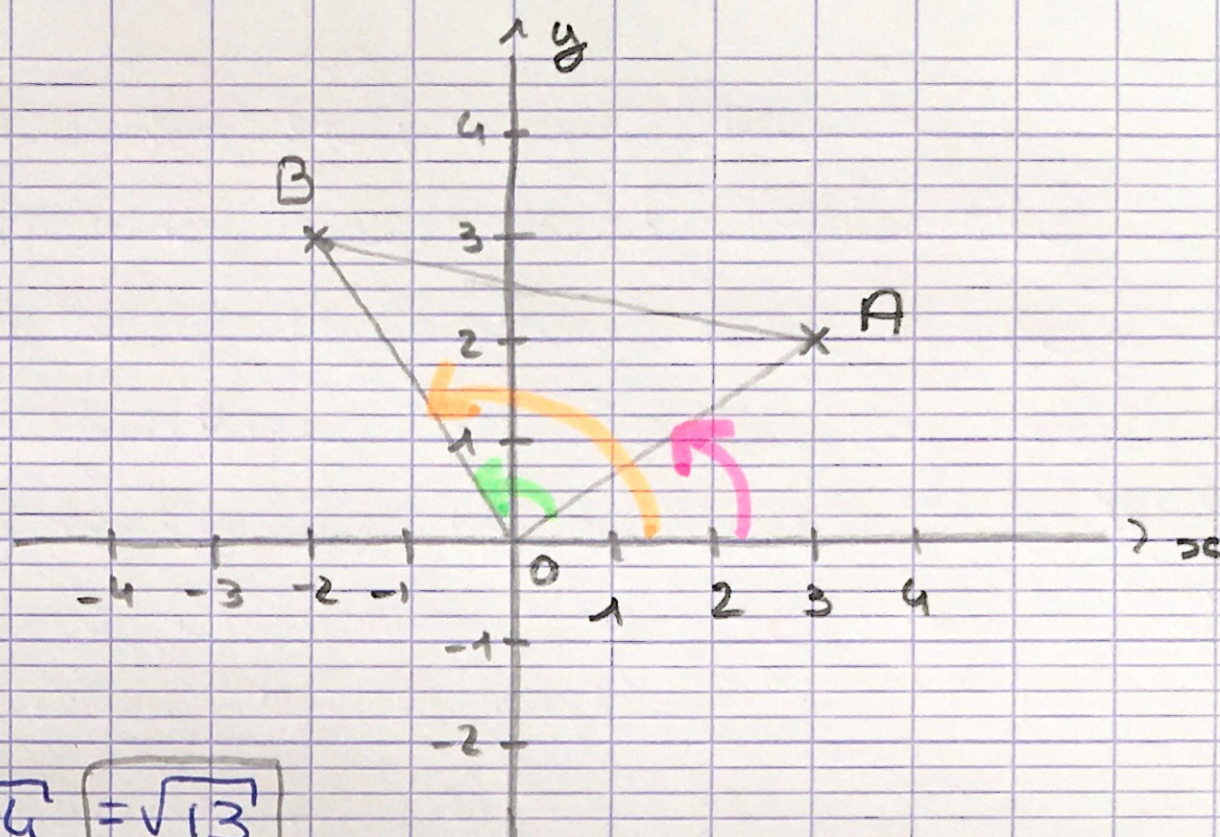


Activité

$$z_A = 3 + 2i$$

$$z_B = -2 + 3i$$



$$1. OA = \sqrt{3^2 + 2^2} = \sqrt{9 + 4} = \sqrt{13}$$

$$OB = \sqrt{(-2)^2 + 3^2} = \sqrt{4 + 9} = \sqrt{13}$$

$$AB = \sqrt{(-2 - 3)^2 + (3 - 2)^2} = \sqrt{(-5)^2 + 1^2} = \sqrt{25 + 1} = \sqrt{26}$$

$$2. (\vec{u}, \vec{OA}) = \arg(z_A) + 2k\pi$$

$$(\vec{u}, \vec{OB}) = \arg(z_B) + 2k\pi$$

$$(\vec{OA}, \vec{OB}) = (\vec{OA}, \vec{u}) + (\vec{u}, \vec{OB})$$

$$= (\vec{u}, \vec{OB}) - (\vec{u}, \vec{OA})$$

$$= \arg(z_B) - \arg(z_A) + 2k\pi$$

$$= \arg\left(\frac{z_B}{z_A}\right) + 2k\pi$$

$$= \arg\left(\frac{-2 + 3i}{3 + 2i}\right) + 2k\pi$$

$$= \arg(i) + 2k\pi$$

$$= \frac{\pi}{2} + 2k\pi$$

3.

$$\left| \frac{z_B}{z_A} \right| = \frac{|z_B|}{|z_A|} = \frac{OB}{OA} = 1$$

triangle isocèle

$$\frac{z_B}{z_A} = i$$

$$\arg\left(\frac{z_B}{z_A}\right) = \arg(z_B) - \arg(z_A) = (\vec{OA}, \vec{OB})$$

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

triangle rectangle