

Exercice: $z = 1 - 2i$

$$\bar{z} = 1 + 2i$$

forme algébrique de $\frac{1}{z}$:

$$\frac{1}{z} = \frac{1}{1 - 2i}$$

$$\frac{\bar{z}}{z\bar{z}} = \frac{1 + 2i}{1 + 4} = \frac{1}{5} + \frac{2}{5}i$$

forme algébrique

$z = 2 + 5i$ calculer $\frac{1}{z}$ sans
faire algèbre par .

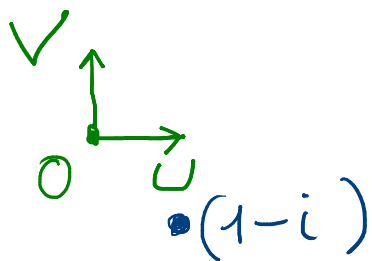
Résumé : $z\bar{z} = |z|^2 = a^2 + b^2$

$$\frac{1}{z} = \frac{\bar{z}}{|z|^2} = \frac{2}{29} - \frac{5}{29}i$$

$$z = 1 - i$$

calculer z^2, z^3, z^4

forme trigo de $(1-i)$?



$$1 - i = \sqrt{2} \left(\cos\left(-\frac{\pi}{4}\right) + i \sin\left(-\frac{\pi}{4}\right) \right)$$

$$\cos\left(-\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2} \quad \sin\left(-\frac{\pi}{4}\right) = -\frac{\sqrt{2}}{2}$$

$$|z| = |1 - i| = \sqrt{1^2 + 1^2} = \sqrt{2}$$

$$\sqrt{2} \times \left(\frac{\sqrt{2}}{2} - i \frac{\sqrt{2}}{2} \right) = \frac{2}{2} - i \frac{2}{2} = 1 - i$$

