

Exercice 18.

On donne les nombres complexes :

$$z_1 = 1 - 3i, z_2 = 4 + 2i, z_3 = 5 - 2i.$$

Calculez :

1. $\operatorname{Re}(z_1 + z_2 + z_3)$
2. $\operatorname{Im}(iz_1)$
3. $\operatorname{Im}(z_1 z_2)$
4. $\operatorname{Re}(2z_1 - 3z_2 + z_3)$

$$1) \operatorname{Re}(z_1 + z_2 + z_3) = 1 + 4 + 5 = 10$$

$$2) \operatorname{Im}(iz_1) = \operatorname{Im}(i(1 - 3i)) = \operatorname{Im}(i + 3) = 1$$

$$3) \operatorname{Im}(z_1 z_2) = \operatorname{Im}((1 - 3i)(4 + 2i)) = \operatorname{Im}(4 + 2i - 12i + 6)$$

$$4) \operatorname{Re}(2z_1 - 3z_2 + z_3) = 2 - 12 + 5 = -5$$