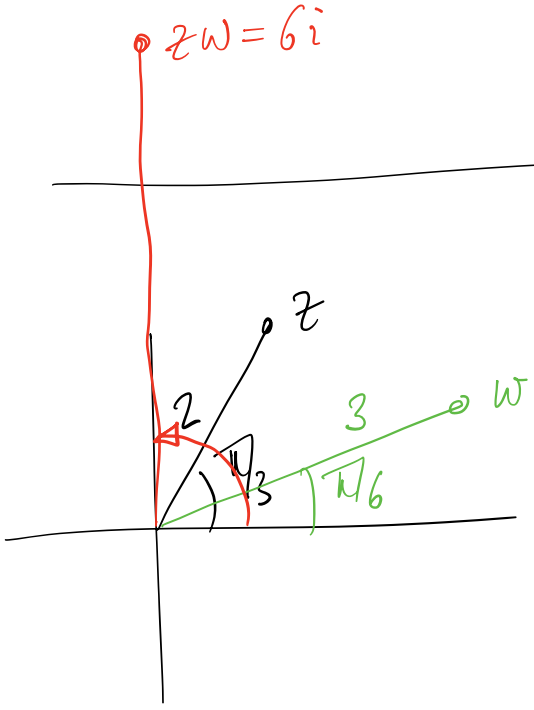
$$(1+2i)(-3-5i) = -3-5i-6i+10$$

$$= 7-11i$$



$$= \boxed{1+\sqrt{3}\,i}$$

$$z = 2\cos\left(\frac{\pi}{3}\right) + i\cdot 2\sin\left(\frac{\pi}{3}\right)$$

$$= [2;\ \frac{\pi}{3}]$$

$$w = 3\cos\left(\frac{\pi}{6}\right) + i\,3\sin\left(\frac{\pi}{6}\right)$$

$$= [3;\ \frac{\pi}{6}]$$

$$= \boxed{\frac{3\sqrt{3}}{2} + \frac{3}{2}i}$$

$$z\cdot w = \left(1+\sqrt{3}\,i\right)\left(\frac{3\sqrt{3}}{2} + \frac{3}{2}i\right)$$

$$= \frac{3\sqrt{3}}{2} - \sqrt{3}\cdot\frac{3}{2} + \frac{9}{2}i + \frac{3}{2}i$$

$$= 6i$$

$$z\cdot w = [2;\ \frac{\pi}{3}]\cdot[3;\ \frac{\pi}{6}] = [2\cdot 3;\ \frac{\pi}{3}+\frac{\pi}{6}] = [6;\ \frac{\pi}{2}]$$

$$= 6i$$

$z = \cos\varphi + i\sin\varphi = [1;\varphi]$

$w = \cos\theta + i\sin\theta = [1;\theta]$

$z \cdot w = [1;\theta+\varphi]$

$z \cdot w = r(\cos\varphi + i\sin\varphi)(\cos\theta + i\sin\theta)r'$

$= rr'(\cos\varphi\cos\theta - \sin\varphi\sin\theta) + i\,rr'(\cos\varphi\sin\theta + \sin\varphi\cos\theta)$

$\cos(\varphi+\theta)$ $\quad$ $\sin(\varphi+\theta)$

c.f. démonstration géométrique

$[r;\varphi]\cdot[r';\theta] = [rr';\varphi+\theta]$

$[r;\varphi]^n = [r^n;n\varphi]$ (par récurrence)

$f: \mathbb{R} \to \mathbb{R}$ tq. $\lim_{x\to\infty} f(x) = \infty$

$\lim_{x\to\infty} \frac{f(x)}{x}$

- $= \infty$ ~~A.O.~~
- $= m$
  - $\lim_{x\to\infty} (f(x) - mx) = \infty$ ~~A.O.~~
  - $\lim_{x\to\infty} (f(x) - mx) = h$

A.O. en $y = mx + h$

$x^2 + x + 1 > 0$ $(\Delta < 0)$

$$\lim_{x\to 2} \frac{x^2+x+1}{x-2} = \text{"}\frac{4+2+1}{0}\text{"} = \text{"}\frac{7}{0}\text{"} = \infty$$

$\Rightarrow$ A.V. en $x = 2$