$(a+bi)(a+bi) = i$

$a(a+bc) + bc(a+bc)$

$a^2 + abi + abi + (bi)^2$

$a^2 - b^2 + 2abi = i$

$a^2 + 2abc - b^2 - i = 0$

$a = \frac{-2bi \pm \sqrt{-4b^2 + 4(b^2 + i)}}{2}$

$a = -bi + a + bi$ ca

$\pm\sqrt{4\left(-b^2 + b^2 + i\right)}$

or

$a = -bi - a - bi$

$= -a - 2bi$

$\frac{-2bi \pm 2\sqrt{i}}{2}$

$\Rightarrow 2a = -2bi$

$a = -bi \pm \sqrt{i}$

$a = -bi$

$= -bi \pm (a+bi)$

$a^2 - b^2 = 0$, $2ab = 1$

$(a+b)(a-b) = 0$ $\quad ab = \frac{1}{2}$

$a+b=0$ $\quad a-b=0$ $\quad a^2 = \frac{1}{2}$

$a = b$ $\quad a = \frac{\sqrt{2}}{2}, b = \frac{\sqrt{2}}{2}$

$a = -b \rightarrow -(a)^2 = \frac{1}{2}$, $a^2 = -\frac{1}{2}$ $a = \frac{i}{\sqrt{2}} = \frac{\sqrt{2}i}{2}$

$a^2 = -ab$

$-a^2 = ab = \frac{1}{2}$

$a = \pm\frac{i}{\sqrt{2}} = \pm\frac{\sqrt{2}i}{2}$

so $a = \frac{\sqrt{2}i}{2}$, $b = -\frac{\sqrt{2}i}{2}$

or $a = -\frac{\sqrt{2}i}{2}$, $b = \frac{\sqrt{2}i}{2}$

??? are there ?

theres the geometric one