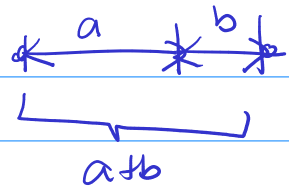
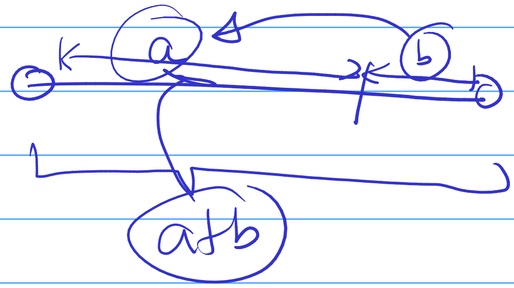
$a+b$





$$\boxed{\frac{a+b}{a} = \frac{a}{b}}$$

Razón aurea

$$(a+b)b = a^2$$

$$ab + b^2 - a^2 = 0$$

$$\frac{a^2 - ab - b^2 = 0}{b^2}$$

$$\left(\frac{a}{b}\right)^2 - \frac{a}{b} - 1 = 0$$

Si $\varphi = \frac{a}{b} \Rightarrow$

$$\varphi^2 - \varphi - 1 = 0$$

$$\varphi_{1,2} = \frac{1 \pm \sqrt{1+4}}{2} = \frac{1 \pm \sqrt{5}}{2}$$

Tomamos la raíz positiva:

$$\varphi_1 = \frac{1+\sqrt{5}}{2} \approx 1.618033989$$

$$1 + \frac{b}{a} = \frac{a}{b}$$

Si $\varphi = \frac{a}{b} \Rightarrow$

$$(1 + \varphi^{-1} = \varphi)\varphi$$

$$\varphi + 1 = \varphi^2$$

$$\varphi^2 - \varphi - 1 = 0$$

φ

Mediante la sucesión de Fibonacci.

$$\varphi = \lim_{n \to \infty} \frac{F_{n+1}}{F_n}.$$