Métodos numéricos **Nombre:** *Kevin Pallo*
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Demostración de la formula de falsa posición
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- Demostración de la formula falsa posición.

$$c_x = b_x - f(b_x) * \left(\frac{(b_x - a_x)}{f(b_x) - f(a_x)} \right)$$

Partiendo de la formula de la secante se obtiene:

$$(b_x - c_x)(f(b_x) - f(a_x)) = f(b_x)(b_x - a_x)$$

$$b_x f(b_x) - b_x f(a_x) - c_x f(b_x) + c_x f(a_x) = f(b_x)(b_x - a_x)$$

$$-b_x f(a_x) + c_x f(a_x) = f(b_x)(b_x - a_x + c_x - b_x)$$

$$f(a_x)(-b_x + c_x) = f(b_x)(-a_x + c_x)$$

$$(-1)f(a_x)(b_x - c_x) = f(b_x)(a_x - c_x)(-1)$$

$$\frac{f(a_x)}{a_x - c_x} = \frac{f(b_x)}{b_x - c_x}$$

$$f(a_x)(b_x - c_x) = f(b_x)(a_x - c_x)$$

$$f(a_x)b_x - f(a_x)c_x = f(b_x)a_x - f(b_x)c_x$$

$$c_x \left[f(b_x) - f(a_x) \right] = a_x f(b_x) - b_x f(a_x)$$

$$c_x = \frac{a_x f(b_x) - b_x f(a_x)}{f(b_x) - f(a_x)}$$