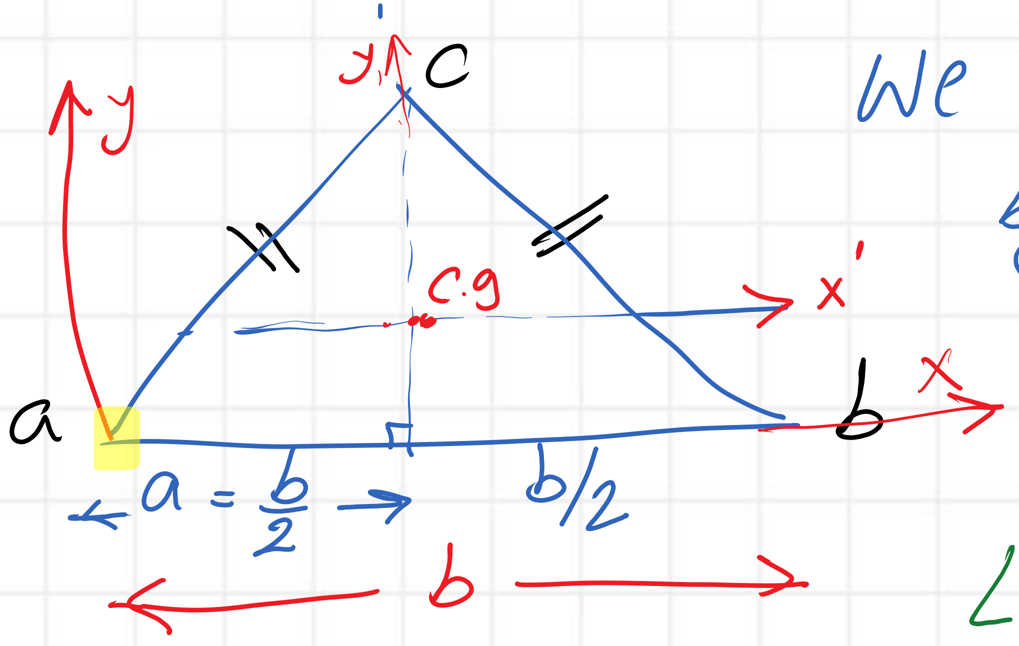
Product of inertia For isosceles I_{xy}



We Can estimate the I_{xy} by using I_{xy} equation For a triangle

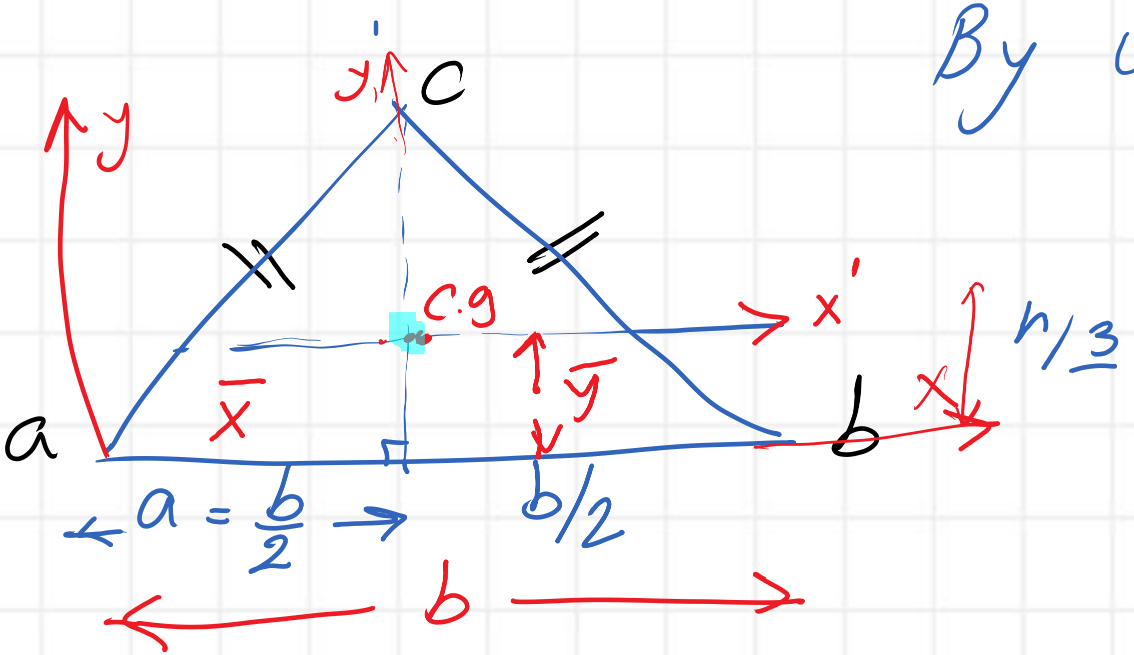
we Let $a = \frac{b}{2}$, then substitute

$$I_{xy} = \frac{bh^2}{24}(2a+b)$$

$$I_{xy} \text{ @ point } a = \frac{bh^2}{24}\left(2\left(\frac{b}{2}\right)+b\right) = \frac{bh^2}{24}(2b) = \frac{b^2h^2}{12}$$

$$I_{xy} = \frac{b^2h^2}{12}$$

Product of inertia For isosceles I_{xyg}



By using Parallel axes theorem

$$I_{xyg} = I_{xy} - A(\bar{x})(\bar{y})$$

$$I_{xy} = \frac{b^2h^2}{12}$$

$$A = \frac{1}{2}(b)h$$

$$\bar{x} = \frac{b}{2}$$

$$\bar{y} = \frac{h}{3}$$

$$I_{xy\,c.g} = I_{xy} - A\, x_{c.g}\, y_{c.g}$$

$$= \frac{b^2h^2}{12} - \frac{1}{2}(bh)\left(\frac{b}{2}\right)(h/3) = \frac{b^2h^2}{12} - \frac{b^2h^2}{12} = 0$$