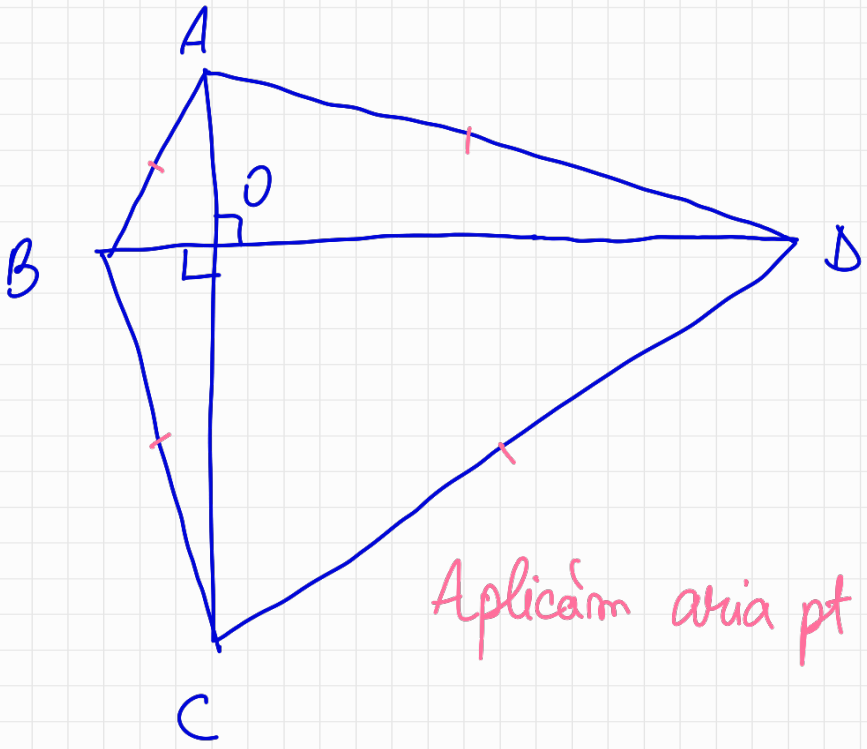
De ce dacă avem un patrulater convex și diagonalele sunt perpendiculare, atunci aria e $\frac{d_1 \cdot d_2}{2}$?? Ok... :)



Aplicăm aria pt 4 tr. dreptunghice :

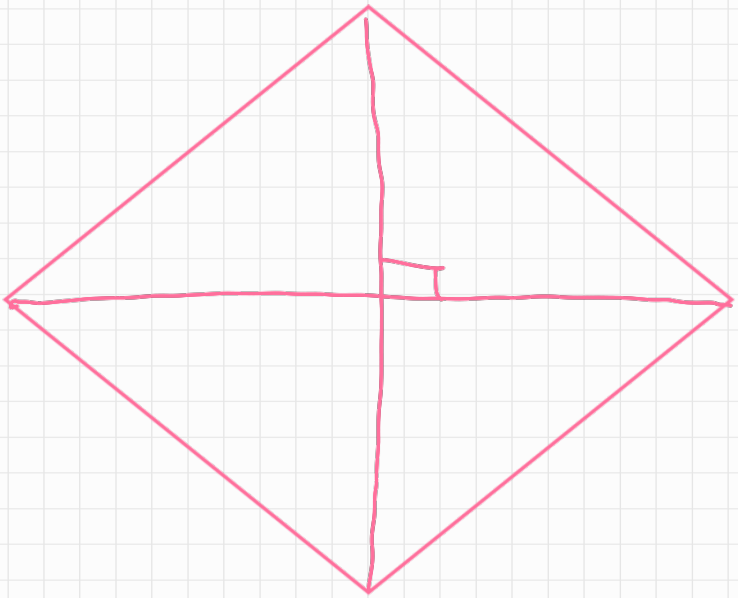
$$A = \frac{AO \cdot OD}{2} + \frac{AO \cdot OB}{2} + \frac{OC \cdot OD}{2} + \frac{OC \cdot OB}{2} =$$

$$= AO\left(\frac{OD}{2} + \frac{OB}{2}\right) + OC \cdot \left(\frac{OD}{2} + \frac{OB}{2}\right) =$$

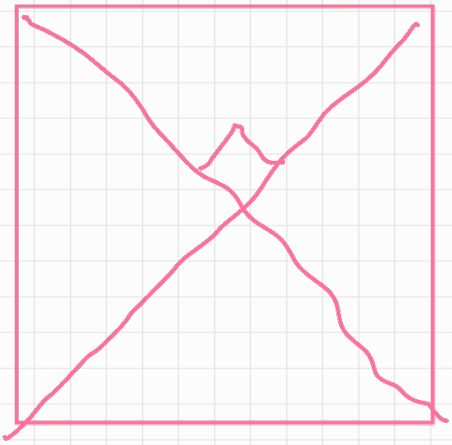
$$= AO \cdot \frac{BD}{2} + OC \cdot \frac{BD}{2} = \frac{BD}{2}(AO + OC) =$$

$$= \frac{BD}{2} \cdot AC = \frac{BD \cdot AC}{2} = \frac{d_1 \cdot d_2}{2}$$

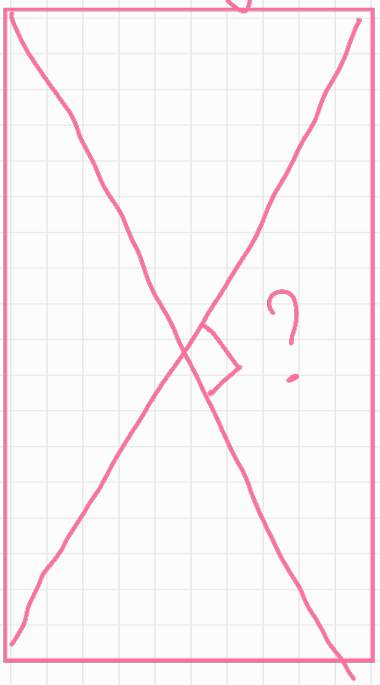
Romb



pătrat



dreptunghi



paralelogramul cu diagonalele perpendiculare este romb.

Se poate ca un dreptunghi să aibă diagonalele perpendiculare?