

Answer on Question #81354 - Math - Geometry

$$\begin{aligned} CA &= BA - BC, \quad CX = 1/2CA = 1/2(BA - BC), \quad BX = BC + CX = BC + 1/2(BA - BC) = 1/2(BA + BC). \\ YX &= YB + BC + CX = YB + BA + AX = YD + DA + AX = YD + DC + CX, \\ YX &= 1/4(YB + BC + CX + YB + BA + AX + YD + DA + AX + YD + DC + CX) \\ &= 1/2(YB + YD + CX + AX) + 1/4(BC + BA + DA + DC). \end{aligned}$$

It is obvious that $YB + YD = 0$, $CX + AX = 0$. Thus $YX = 1/4(BC + BA + DA + DC)$.