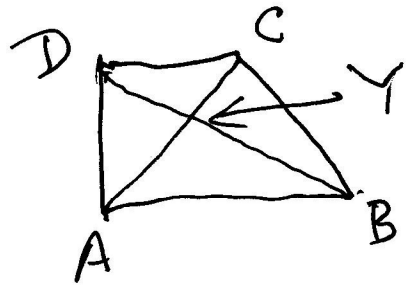


Quiz 1

DRAW
PICTURE



Let $A = (0, 0)$, $B = (x, 0)$, $C = (1, 1)$ and $D = (1, 0)$ be the vertices of a trapezoid.

Find the point Y where the diagonal lines AC and BD meet.

(Different choices for x in each section, say $x = 3$ or 4 .)

GIVE Hint: The line AC consists of all points of the form (u, u) for u real.

SOLUTION: BD has eqn $(0, 1) + t(x, -1) = (tx, 1-t)$. So BD meets AC at the point where $tx = 1-t$. Solve: $t = \frac{1}{1+x}$ So the intersection point is $(\frac{x}{x+1}, \frac{x}{x+1})$.