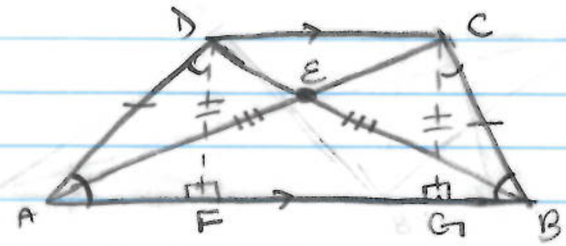
3)




Suppose $CD \parallel AB$, $AD = BC$ and $AD \nparallel BC$

we need to show $AE = BE$

Let AC be the transversal for AB and CD

By $\boxed{\text{Thm 15}}$, there are points F and G on AB such that $DF \perp AB$ and $CG \perp AB$, and $DF \cong CG$

By definition of perpendicular lines $\measuredangle DFA = \measuredangle CGB = 90°$

By $\boxed{\text{Thm 10}}$ $\triangle FAD \cong \triangle GBC$ ✓

By definition of congruent triangles, $\measuredangle DAF = \measuredangle CBG$

Since $AD = BC$, $\measuredangle DAB = \measuredangle CBA$, and $\triangle DAB$ and $\triangle CBA$ share the side AB, then by $\boxed{\text{BF2}}$.

$\triangle DAB \cong \triangle CBA$

By $\boxed{\text{Thm 6}}$ $AE = BE$, as claimed $\boxed{\text{P}}$