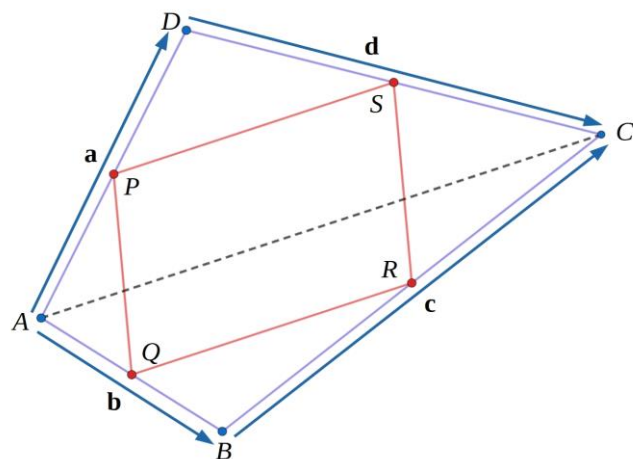


Draw a convex quadrilateral and then join the adjacent midpoints of the four edges. You should find that the quadrilateral that is formed will always be a parallelogram.

Here is a diagram and a proof that has been scrambled up.
Can you rearrange it into its original order?



This means that two of the sides are parallel, and they are the same length, therefore $PQRS$ is a parallelogram	A
Therefore $\vec{QR} = \frac{1}{2}\vec{AC}$	B
Let $\vec{AD} = \mathbf{a}$, $\vec{DC} = \mathbf{d}$, $\vec{AB} = \mathbf{b}$ and $\vec{BC} = \mathbf{c}$	C
$\vec{QR} = \frac{1}{2}\vec{AB} + \frac{1}{2}\vec{BC} = \frac{1}{2}(\mathbf{b} + \mathbf{c})$	D
$\vec{AC} = \vec{AB} + \vec{BC} = \mathbf{b} + \mathbf{c}$	E
$\vec{PS} = \frac{1}{2}\vec{AD} + \frac{1}{2}\vec{DC} = \frac{1}{2}(\mathbf{a} + \mathbf{d})$	F
Therefore $\vec{PS} = \frac{1}{2}\vec{AC}$	G
Therefore $\vec{PS} = \vec{QR}$	H
$\vec{AC} = \vec{AD} + \vec{DC} = \mathbf{a} + \mathbf{d}$	I