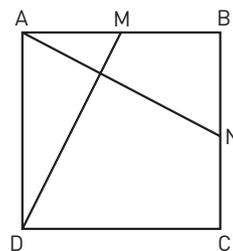


YOU & MATHS **A square and two midpoints** In the figure $ABCD$ is a square. Points M and N are the midpoints of AB and BC , respectively. Prove that $AN \cong DM$.



We can prove that $AN \cong DM$ by showing that the triangles ANB and AMD are congruent.

This is true thanks to the side-angle-side (SAS) criterion:

- $AD \cong AB$, because they are sides of the square;
- $AM \cong BN$, because they are both half the side of the square;
- $\widehat{BAD} \cong \widehat{ABN}$, because they are both right angles.

Therefore, $AN \cong DM$.