

SIMPLE CONSTRUCTIONS: QUADRILATERALS

Mr. Merrick · January 22, 2026

Worked Demonstration

Goal: Construct kite $ABCD$ with

$$AB = AD = 4 \text{ cm}, \quad BC = CD = 6 \text{ cm}, \quad \angle BAD = 80^\circ.$$

Steps (ruler + protractor + compass)

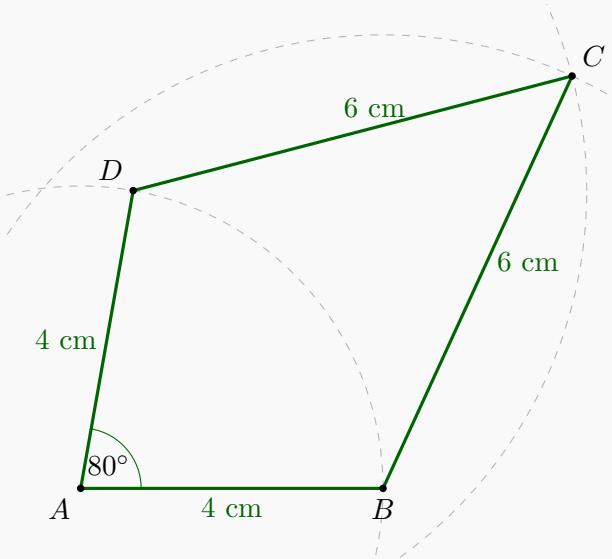
Step 1: Draw $AB = 4 \text{ cm}$.

Step 2: At A , measure $\angle BAD = 80^\circ$ and draw a ray.

Step 3: Set compass to 4 cm. With center A , draw an arc to hit the ray. Label that point D .

Step 4: Set compass to 6 cm. Draw an arc centered at B and an arc centered at D . Their intersection is C .

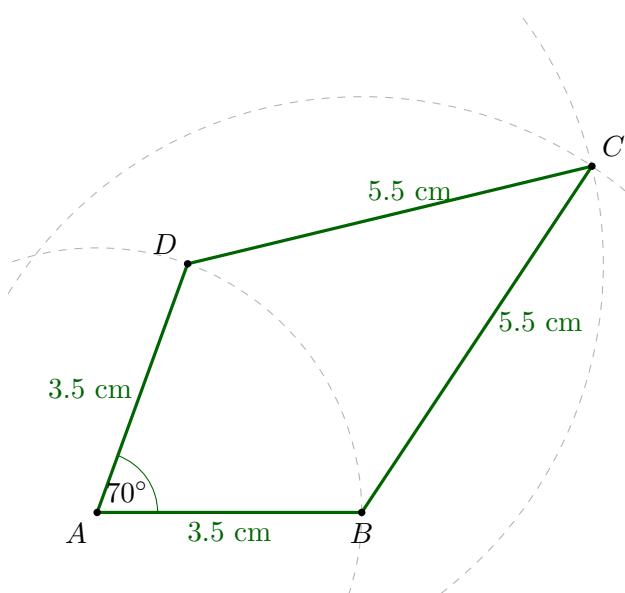
Step 5: Draw BC and CD to finish the kite.



Now You Try: Construct each quadrilateral

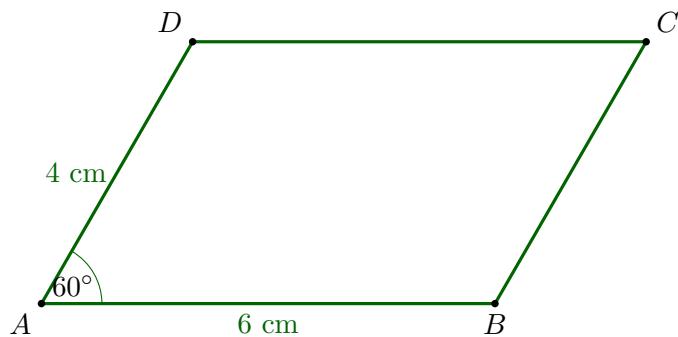
(1) **Kite $ABCD$**

$$AB = AD = 3.5 \text{ cm}, \quad BC = CD = 5.5 \text{ cm}, \quad \angle BAD = 70^\circ$$



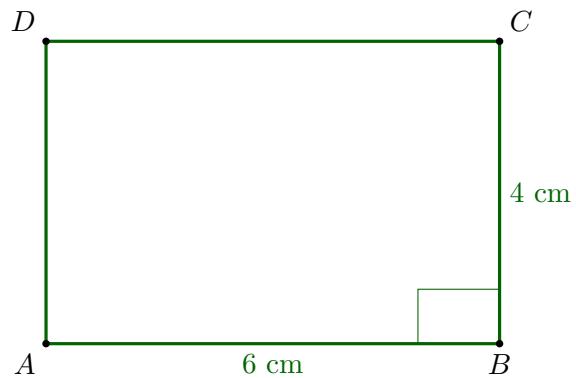
(2) Parallelogram $ABCD$

$$AB = 6 \text{ cm}, \quad AD = 4 \text{ cm}, \quad \angle DAB = 60^\circ$$



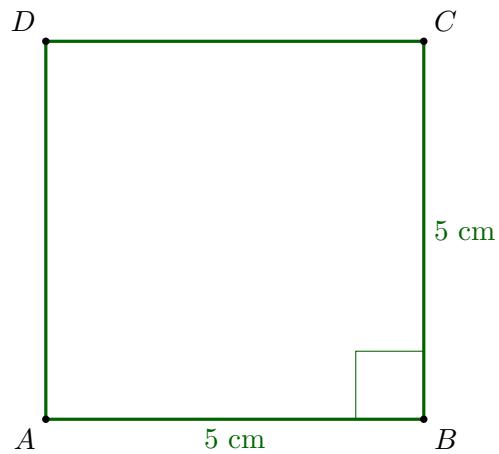
(3) Rectangle $ABCD$

$$AB = 6 \text{ cm}, \quad BC = 4 \text{ cm}, \quad \angle ABC = 90^\circ$$



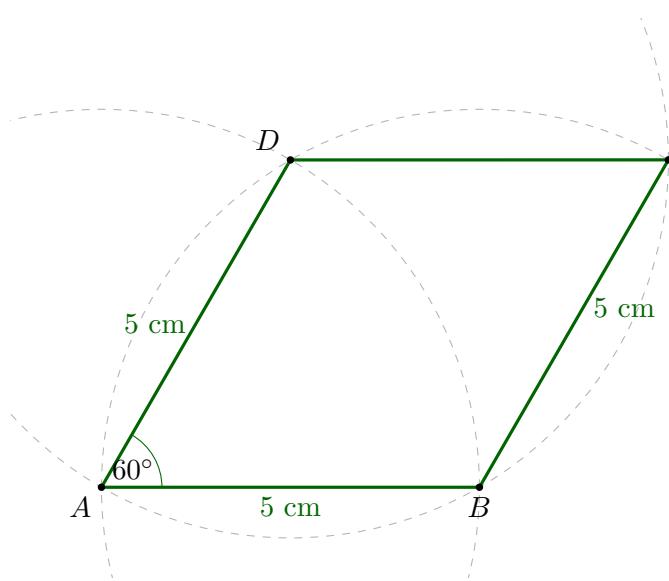
(4) Square $ABCD$

$AB = 5 \text{ cm}$, $\angle ABC = 90^\circ$, $AB = BC$.



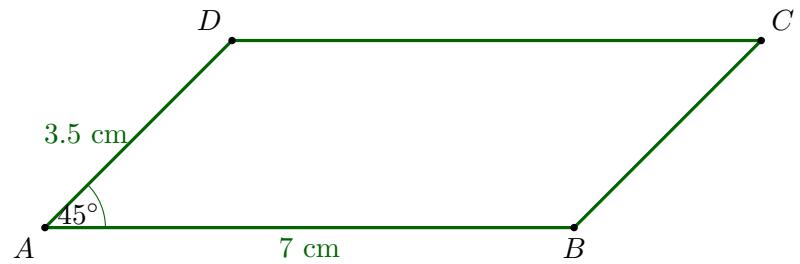
(5) Rhombus $ABCD$

$AB = BC = CD = DA = 5 \text{ cm}$, $\angle DAB = 60^\circ$.



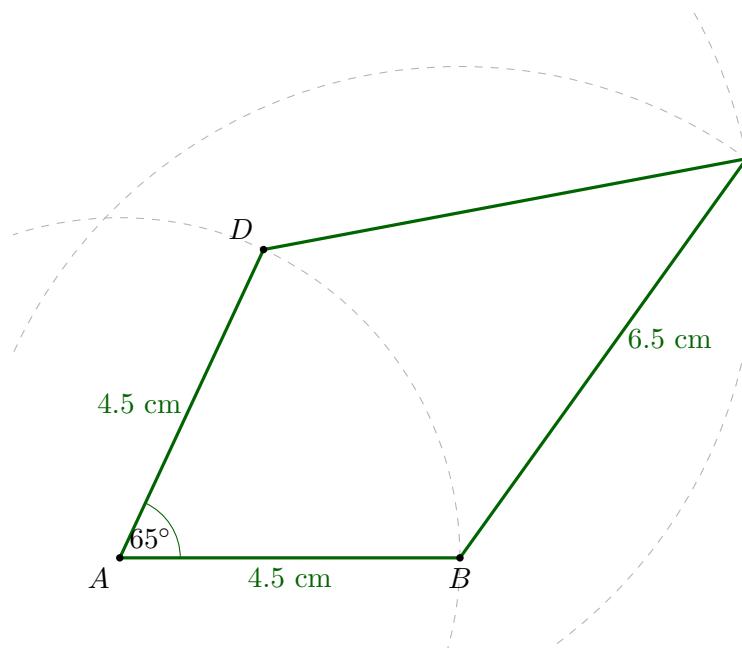
(6) Parallelogram $ABCD$

$AB = 7 \text{ cm}$, $AD = 3.5 \text{ cm}$, $\angle DAB = 45^\circ$.



(7) Kite $ABCD$

$AB = AD = 4.5 \text{ cm}$, $BC = CD = 6.5 \text{ cm}$, $\angle BAD = 65^\circ$.



(8) Trapezoid $ABCD$

$AB = 9 \text{ cm}$, $CD = 5 \text{ cm}$, $AD = 4 \text{ cm}$, $\angle DAB = 90^\circ$, and $CD \parallel AB$.

