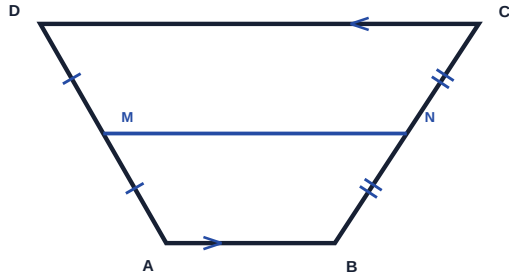


Properties of Trapezoids

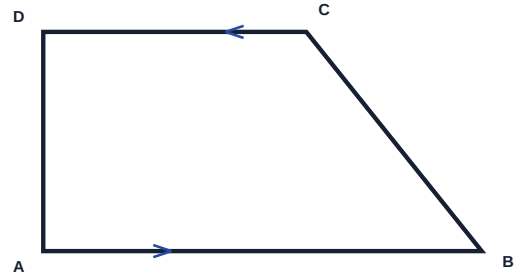
Use supplementary same-leg angles, isosceles diagonals, and the trapezoid midsegment formula to find each measure.

1. $AB = 15$ units; $CD = 39$ units. Find MN .



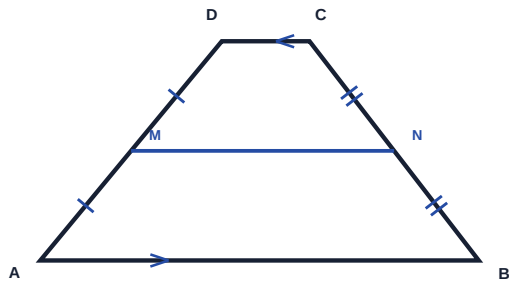
$MN =$ _____

2. $\angle CDA = 90^\circ$. Find $\angle DAB$.



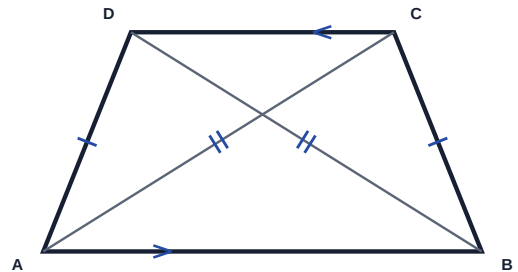
$\angle DAB =$ _____

3. $MN = 30$ units; $CD = 10$ units. Find AB .



$AB =$ _____

4. $BD = 18$ units. Find AC .

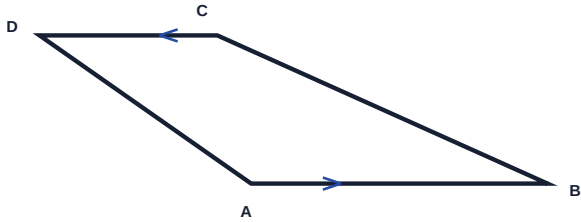


$AC =$ _____

Properties of Trapezoids

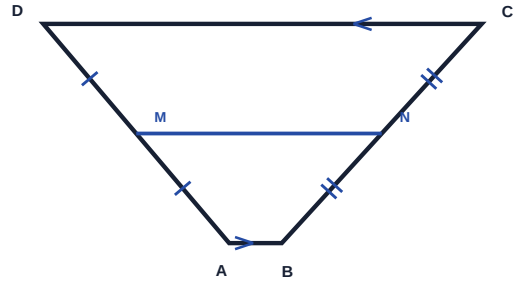
Use supplementary same-leg angles, isosceles diagonals, and the trapezoid midsegment formula to find each measure.

5. angle CDA = 35 deg. Find angle DAB.



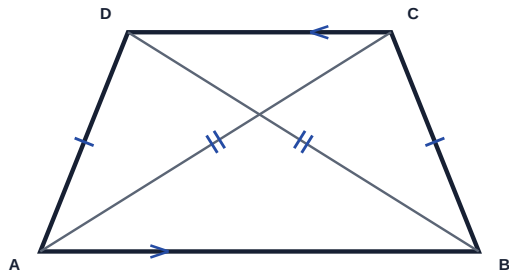
angle DAB = _____

6. AB = 6 units; CD = 50 units. Find MN.



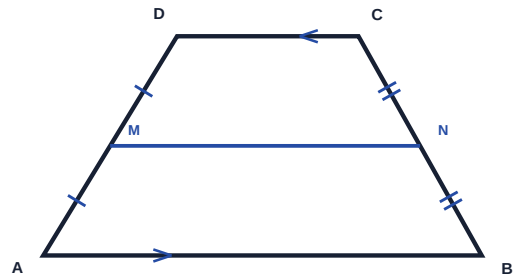
MN = _____

7. BD = 17 units. Find AC.



AC = _____

8. MN = 41 units; CD = 24 units. Find AB.



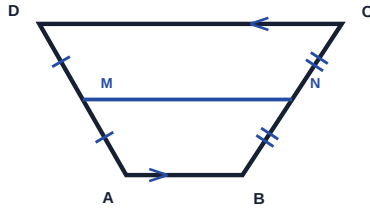
AB = _____

Properties of Trapezoids

Worked Answer Key

Use supplementary same-leg angles, isosceles diagonals, and the trapezoid midsegment formula to find each measure.

1. $AB = 15$ units; $CD = 39$ units. Find MN .

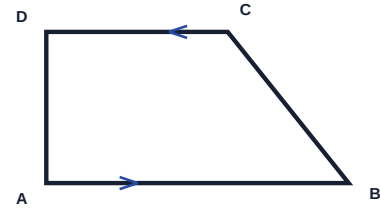


A trapezoid midsegment is the average of the bases.

$$MN = (15 + 39) / 2 = 27 \text{ units.}$$

Answer: $MN = 27$ units

2. $\angle CDA = 90^\circ$. Find $\angle DAB$.

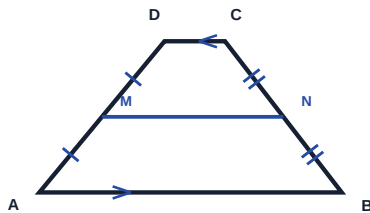


Same-leg interior angles are supplementary because the bases are parallel.

$$\angle DAB = 180^\circ - 90^\circ = 90^\circ.$$

Answer: $\angle DAB = 90^\circ$

3. $MN = 30$ units; $CD = 10$ units. Find AB .

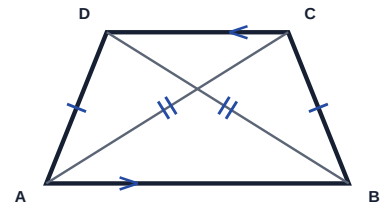


A trapezoid midsegment is the average of the bases.

$$AB = 2(MN) - CD = 2(30) - 10 = 50 \text{ units.}$$

Answer: $AB = 50$ units

4. $BD = 18$ units. Find AC .



The diagonals of an isosceles trapezoid are congruent.

$$AC = BD = 18 \text{ units.}$$

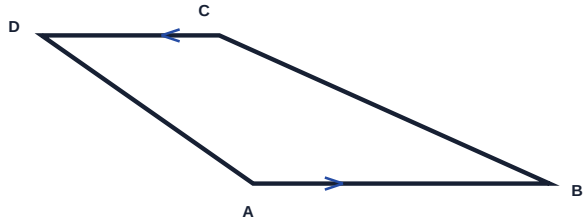
Answer: $AC = 18$ units

Properties of Trapezoids

Worked Answer Key

Use supplementary same-leg angles, isosceles diagonals, and the trapezoid midsegment formula to find each measure.

5. angle CDA = 35 deg. Find angle DAB.

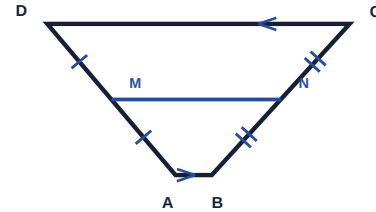


Same-leg interior angles are supplementary because the bases are parallel.

angle DAB = 180 deg - 35 deg = 145 deg.

Answer: angle DAB = 145 deg

6. AB = 6 units; CD = 50 units. Find MN.

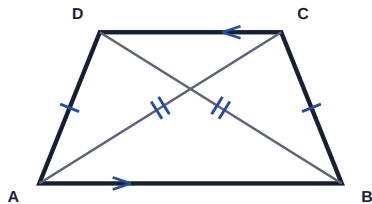


A trapezoid midsegment is the average of the bases.

$MN = (6 + 50) / 2 = 28$ units.

Answer: MN = 28 units

7. BD = 17 units. Find AC.

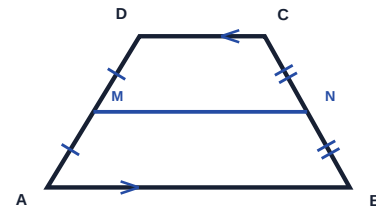


The diagonals of an isosceles trapezoid are congruent.

AC = BD = 17 units.

Answer: AC = 17 units

8. MN = 41 units; CD = 24 units. Find AB.



A trapezoid midsegment is the average of the bases.

$AB = 2(MN) - CD = 2(41) - 24 = 58$ units.

Answer: AB = 58 units