

Properties of Parallelograms

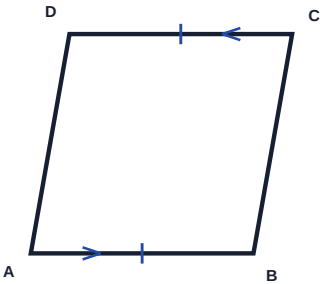
Use opposite sides, supplementary consecutive angles, bisected diagonals, and the marked diagonal split to find each measure.

1. angle ABC = 84 deg. Find angle DAB.



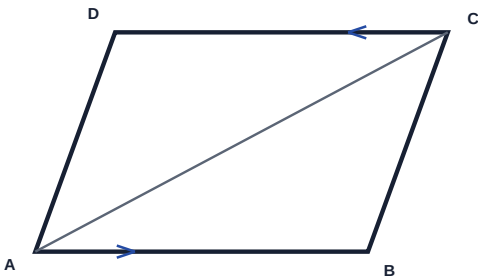
angle DAB = _____

2. CD = 58 units. Find AB.



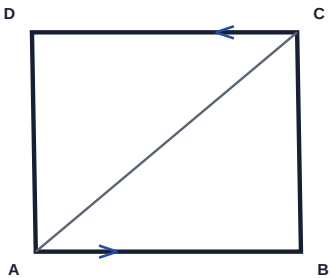
AB = _____

3. angle ABC = 110 deg; angle BAC = 28 deg. Find angle CAD.



angle CAD = _____

4. angle ABC = 89 deg; angle BAC = 40 deg. Find angle CAD.

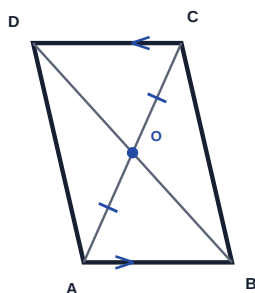


angle CAD = _____

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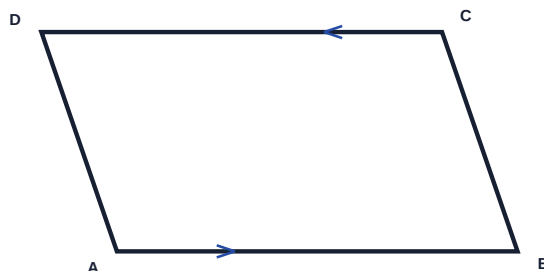
Use opposite sides, supplementary consecutive angles, bisected diagonals, and the marked diagonal split to find each measure.

5. $AC = 44$ units. Find AO .



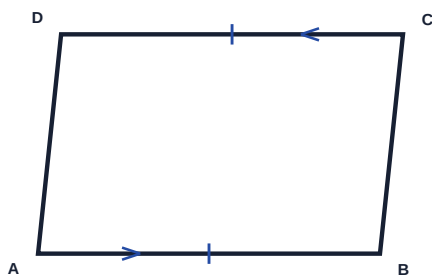
$AO =$ _____

6. $\angle ABC = 71$ deg. Find $\angle DAB$.



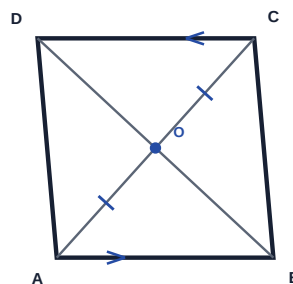
$\angle DAB =$ _____

7. $CD = 7$ units. Find AB .



$AB =$ _____

8. $AO = 12$ units. Find AC .



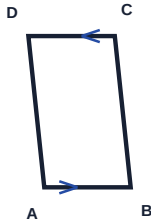
$AC =$ _____

Properties of Parallelograms

Worked Answer Key

Use opposite sides, supplementary consecutive angles, bisected diagonals, and the marked diagonal split to find each measure.

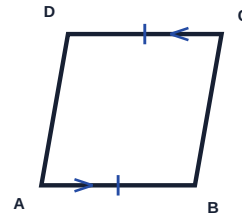
1. angle $ABC = 84$ deg. Find angle DAB .



Consecutive angles in a parallelogram are supplementary.
 $96 \text{ deg} + 84 \text{ deg} = 180 \text{ deg}$.

Answer: angle $DAB = 96$ deg

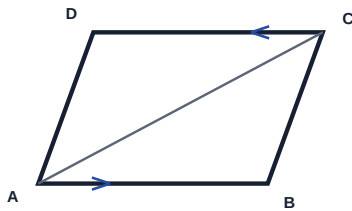
2. $CD = 58$ units. Find AB .



Opposite sides of a parallelogram are congruent.
 $AB = CD = 58$ units.

Answer: $AB = 58$ units

3. angle $ABC = 110$ deg; angle $BAC = 28$ deg. Find angle CAD .



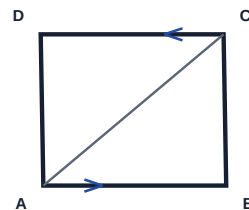
Consecutive angles are supplementary, so angle DAB equals 180 deg minus angle ABC .

angle $DAB = 180 \text{ deg} - 110 \text{ deg} = 70 \text{ deg}$.

angle $CAD = 70 \text{ deg} - 28 \text{ deg} = 42 \text{ deg}$.

Answer: angle $CAD = 42$ deg

4. angle $ABC = 89$ deg; angle $BAC = 40$ deg. Find angle CAD .



Consecutive angles are supplementary, so angle DAB equals 180 deg minus angle ABC .

angle $DAB = 180 \text{ deg} - 89 \text{ deg} = 91 \text{ deg}$.

angle $CAD = 91 \text{ deg} - 40 \text{ deg} = 51 \text{ deg}$.

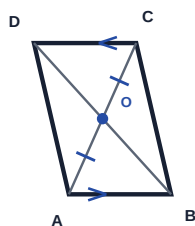
Answer: angle $CAD = 51$ deg

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Worked Answer Key

Use opposite sides, supplementary consecutive angles, bisected diagonals, and the marked diagonal split to find each measure.

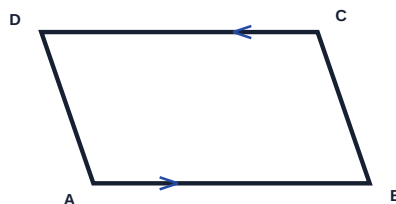
5. $AC = 44$ units. Find AO .



The diagonals of a parallelogram bisect each other at O .
 $AO = AC / 2 = 44 / 2 = 22$ units.

Answer: $AO = 22$ units

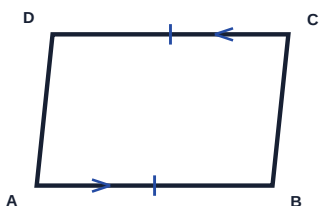
6. $\angle ABC = 71$ deg. Find $\angle DAB$.



Consecutive angles in a parallelogram are supplementary.
 $109 \text{ deg} + 71 \text{ deg} = 180 \text{ deg}$.

Answer: $\angle DAB = 109 \text{ deg}$

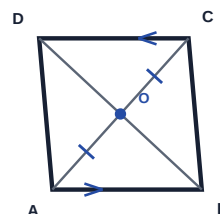
7. $CD = 7$ units. Find AB .



Opposite sides of a parallelogram are congruent.
 $AB = CD = 7$ units.

Answer: $AB = 7$ units

8. $AO = 12$ units. Find AC .



The diagonals of a parallelogram bisect each other at O .
 $AC = 2(AO) = 2(12) = 24$ units.

Answer: $AC = 24$ units