

Geometry - Parallelograms and Quadrilaterals - Quiz

Common Core G-CO.C.11 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Test your understanding of parallelograms and quadrilaterals with this 10-question multiple-choice quiz. Each question has one correct answer, and the explanation after it names the typical mistake behind the wrong choices. Take it after the lesson or before the test.

Geometry · Common Core State Standards: **G-CO.C.11**

Questions

Question 1



What is the measure of angle B in this parallelogram?

- A. 115 degrees
- B. 65 degrees
- C. 25 degrees
- D. 295 degrees

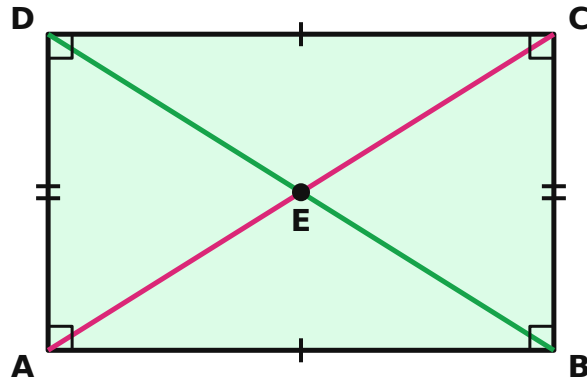
Question 2

The diagonals of a parallelogram meet at E. If $AE = 9$, what is AC?

- A. 9
- B. 27
- C. 4.5

D. 18

Question 3



A rectangle has congruent diagonals.

In this rectangle, $AC = 17$. What is BD ?

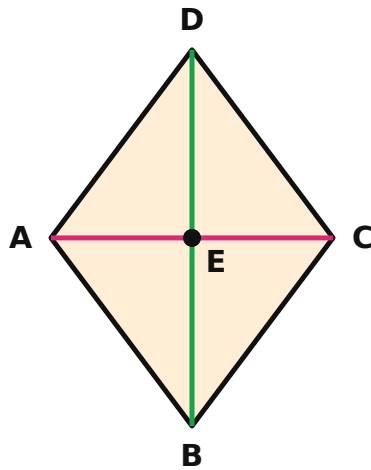
- A. 17
- B. 8.5
- C. 34
- D. Cannot be found

Question 4

Which quadrilateral always has perpendicular diagonals?

- A. Rectangle
- B. Rhombus
- C. Parallelogram
- D. Isosceles trapezoid

Question 5



What is the side length of this rhombus with diagonals 6 and 8?

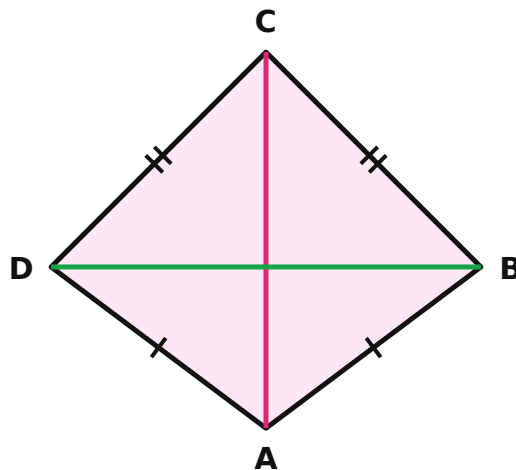
- A. 7
- B. 10
- C. 5
- D. 4.8

Question 6

In a parallelogram, one angle is 3 times its consecutive angle. What is the smaller angle?

- A. 60 degrees
- B. 135 degrees
- C. 30 degrees
- D. 45 degrees

Question 7



Which statement is true about every kite?

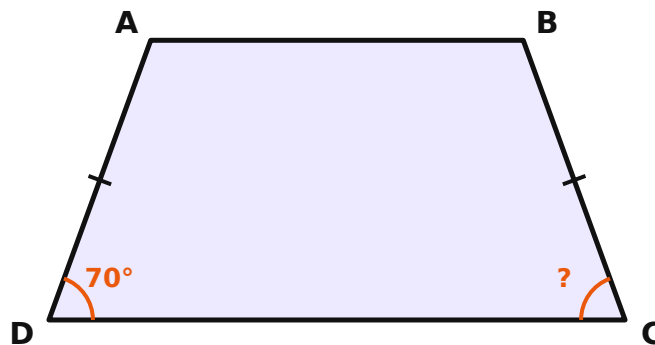
- A. Its diagonals are congruent
- B. Its opposite sides are parallel
- C. Its diagonals are perpendicular
- D. All four sides are congruent

Question 8

The vertices of a quadrilateral are $(0, 0)$, $(4, 0)$, $(5, 3)$ and $(1, 3)$. What is it?

- A. A rectangle
- B. A parallelogram
- C. A trapezoid with only one pair of parallel sides
- D. A kite

Question 9



In the isosceles trapezoid, angle $D = 70$ degrees. What is angle C ?

- A. 70 degrees
- B. 110 degrees
- C. 20 degrees
- D. 35 degrees

Question 10

A rectangle is 5 by 12. What is the length of a diagonal?

- A. 17
- B. 13
- C. 60
- D. 7

Answers

1. **A** - Consecutive angles are supplementary, so $180 - 65 = 115$. Opposite angles, not consecutive ones, are equal.
2. **D** - The diagonals bisect each other, so $AC = 2 \times 9 = 18$.
3. **A** - The diagonals of a rectangle are congruent, so $BD = AC = 17$.
4. **B** - A rhombus has perpendicular diagonals. Rectangles have congruent diagonals, but they are not perpendicular unless the rectangle is a square.
5. **C** - The half-diagonals are 3 and 4, so the side is the square root of $9 + 16$, which is 5.
6. **D** - $x + 3x = 180$ gives $x = 45$. The angle 135 is the larger one.
7. **C** - A kite has perpendicular diagonals. Congruent sides come in adjacent pairs only, and a kite is not a parallelogram in general.
8. **B** - Opposite sides are parallel (both pairs have slope 0 and 3), but the angles are not right angles, so it is a parallelogram that is not a rectangle.
9. **A** - Base angles of an isosceles trapezoid are congruent, so angle C = angle D = 70.
10. **B** - The diagonal is the square root of $25 + 144 = 169$, which is 13. Adding the sides gives 17.

Remember

- Parallelogram: opposite sides congruent, opposite angles congruent, diagonals bisect each other.
- Consecutive angles of a parallelogram add to 180 degrees.
- Rectangle: four right angles and congruent diagonals.
- Rhombus: four congruent sides and perpendicular diagonals that bisect the angles.
- The angles of any quadrilateral add to 360 degrees.