Geogebra Discovering Quadrilateral Properties Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_date\_\_\_\_per\_\_\_\_

Use the tools GeoGebra within these applets to investigate the answers to the following questions.

**PARALLELOGRAM:**

<https://www.geogebra.org/material/simple/id/1634513#material/1464593>

1) Are opposite sides of a parallelogram congruent?
2) Are opposite angles of a parallelogram congruent?3) Do the diagonals of a parallelogram bisect each other?4) Does a diagonal of a parallelogram bisect a pair of opposite angles? If so, how many do?5) Are the diagonals of a parallelogram perpendicular?6) Are the diagonals of a parallelogram congruent?7) Does either diagonal of a parallelogram serve as a line of symmetry? If so, how many?

**RHOMBUS:**

<https://www.geogebra.org/material/simple/id/1634513#material/1461749>

1) Is a rhombus a parallelogram?
2) Are opposite sides of a rhombus congruent?3) Are opposite angles of a rhombus congruent?4) Do the diagonals of a rhombus bisect each other?
5) Does a diagonal of a rhombus bisect a pair of opposite angles?6) Are the diagonals of a rhombus perpendicular?
7) Are the diagonals of a rhombus congruent?
8) Does either diagonal of a rhombus serve as a line of symmetry? If so, how many?

**RECTANGLE:**

<https://www.geogebra.org/material/simple/id/1634513#material/1456225>

1) Is a rectangle a parallelogram?
2) Are opposite sides of a rectangle congruent?3) Are opposite angles of a rectangle congruent?4) Do the diagonals of a rectangle bisect each other?5) Does a diagonal of a rectangle bisect a pair of opposite angles?6) Are the diagonals of a rectangle perpendicular?7) Are the diagonals of a rectangle congruent?8) Does either diagonal of a rectangle serve as a line of symmetry? If so, how many?

**SQUARE:**

<https://www.geogebra.org/material/simple/id/1634513#material/1458995>

1) Is a square a parallelogram?2) Are opposite sides of a square congruent?3) Are opposite angles of a square congruent?
4) Do the diagonals of a square bisect each other?5) Does a diagonal of a square bisect a pair of opposite angles?6) Are the diagonals of a square perpendicular?
7) Are the diagonals of a square congruent?8) Does either diagonal of a square serve as a line of symmetry? If so, how many?

**ISOSCELES TRAPEZOID:**

<https://www.geogebra.org/material/simple/id/1634513#material/1463733>

1) Is an isosceles trapezoid a parallelogram?
2) Are opposite sides of an isosceles trapezoid congruent? If so, how many pairs?3) Are opposite angles of an isosceles trapezoid congruent?4) Do the diagonals of an isosceles trapezoid bisect EACH OTHER?5) Does a diagonal of an isosceles trapezoid bisect a pair of opposite angles?6) Are the diagonals of an isosceles trapezoid perpendicular?7) Are the diagonals of an isosceles trapezoid congruent?8) Does either diagonal of an isosceles trapezoid serve as a line of symmetry? If so, how many?

**KITE:**

<https://www.geogebra.org/material/simple/id/1634513#material/1465039>

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| Use the tools GeoGebra within this applet to investigate the answers to the following questions:1) Is a kite a parallelogram?2) Is a kite a rhombus? Explain why or why not.3) Are OPPOSITE SIDES of a kite congruent? If so, how many pairs?4) Are ADJACENT SIDES of a kite congruent? If so, how many pairs? 5) Are any pairs of opposite angles of a kite congruent? If so, how many pairs?6) Do the diagonals of a kite bisect EACH OTHER?7) Does either diagonal of a kite get bisected by the other diagonal? If so, which diagonal gets bisected?8) Does any diagonal of a kite bisect a pair of opposite angles? If both diagonals don't do this, does one diagonal do this? If so, which diagonal?9) Are the diagonals of a kite perpendicular?10) Are the diagonals of a kite congruent?11) Does either diagonal of a kite serve as a line of symmetry? If so, which one(s)?12) Is a kite a rhombus?13) What properties do a kite and a rhombus share (have in common)? |

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