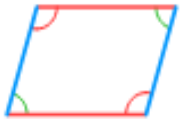
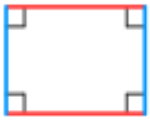
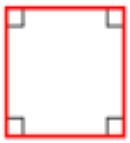
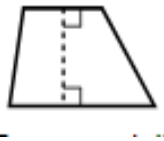
U7D5 Warm Up


_____ _____ _____ _____ _____ _____

Name the quadrilaterals above.
Using the diagrams (and geogebra if needed) explore the answers to the following questions:

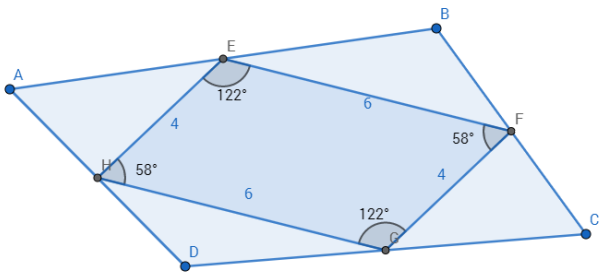
- Which of the quadrilaterals above would have diagonals that bisect each other?

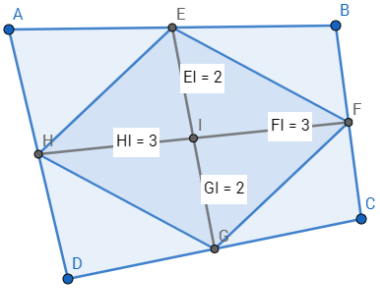
- Which of the quadrilaterals above would have diagonals that are perpendicular?

- Therefore, which quadrilaterals would have diagonals that are considered perpendicular bisectors (both bisect each other and intersect at 90° angles)?

SUMMARY:

1. Joining the midpoints of the sides of any quadrilateral produces a _____.





2. The diagonals of a parallelogram _____ each other.

Examples:

1. a.) Investigate whether the lines that bisect the angles of a triangle always intersect at a single point. Describe your findings.

   b.) Draw a triangle in which the angle bisectors intersect at a single point. Can you draw a circle that has this point as its centre and intersects the triangle at exactly three points? If so, describe the properties of the circle.

2. a) Draw a quadrilateral STUV with ST = SV and UT = UV. (A Kite)

   b.) At what angle do the diagonals of the quadrilateral intersect?

   c.) Join the midpoints of the sides of the quadrilateral to form a smaller quadrilateral WXYZ. What type of quadrilateral is WXYZ?

   d.) Make a conjecture about how the area of WXYZ is related to the area of STUV.

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