

Key

Quadrilateral Properties Summary Sheet

	<u>Parallelogram</u>	<u>Rectangle</u>	<u>Rhombus</u>	<u>Square</u>	<u>Isosceles Trapezoid</u>	<u>Right Trapezoid</u>	<u>General Trapezoid</u>	<u>Kite</u>
<u># of Opposite Sides Parallel</u>	2	2	2	2	1	1	1	0
<u>Opposite Sides Congruent</u>	yes	yes	yes	yes	only the legs	NO	NO	NO
<u>Opposite Angles Congruent</u>	yes	yes	yes	yes	NO	NO	NO	only one pair
<u>Diagonals Congruent</u>	NO	yes	NO	yes	yes	NO	NO	NO
<u>Diagonals Perpendicular</u>	NO	NO	yes	yes	NO	NO	NO	yes
<u>Diagonals Bisect Each Other</u>	yes	yes	yes	yes	NO	NO	NO	only one pair
<u>Diagonals Bisect the Angles</u>	NO	NO	yes	yes	NO	NO	NO	yes
<u>Consecutive Angle Sum = 180 degrees</u>	yes	yes	yes	yes	NO + bases	NO	NO	NO

Name: _____ Hour: _____

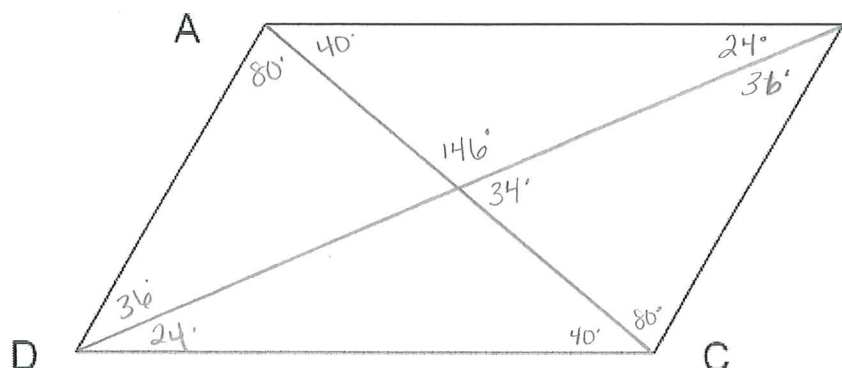
QUADRILATERAL INVESTIGATION:

You will need patty paper, protractor, straight edge, highlighter, and pencil.

Testing	How to test
Opposite Sides Congruent	Use patty paper, trace one side and lay it over the side you are testing for congruence. If they are congruent, they will overlap equally.
Opposite Angles Congruent	Use patty paper, trace one angle and lay it over the angle you are testing for congruence. If they are congruent, they will overlap equally.
Diagonals Congruent	Draw diagonals with a straight edge. Use patty paper, trace one side and lay it over the side you are testing for congruence. If they are congruent, they will overlap equally.
Diagonals Perpendicular	Draw diagonals with a straight edge. Use a protractor to measure each angle formed with the intersecting diagonals. If they intersect to form 90 degree angles, then they are perpendicular.
Diagonals Bisect Each Other	Draw diagonals with a straight edge. Use patty paper, trace the portion of the diagonal and lay it over the other portion of the diagonal you are testing for congruence. If they are congruent, they will overlap equally.
Diagonals Bisect The Angles	Draw diagonals with a straight edge. Use patty paper, trace one angle and lay it over the angle you are testing for congruence. If they are congruent, they will overlap equally. OR you may measure the angles formed by the diagonal. If they are equal in measure, then they are congruent.
Consecutive Angles are Supplementary	Measure two consecutive angles. Consecutive is defined as <i>two interior angles lying on the same side of the transversal cutting across two parallel lines</i> . If the sum of the measures of the two consecutive angles are equal to 108 degrees, then the consecutive angles are supplementary.

1. Parallelogram:

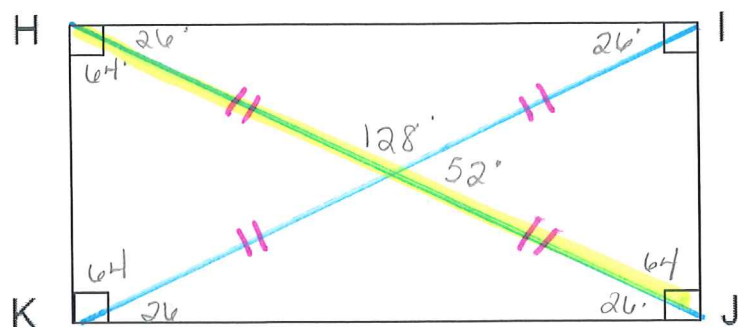
A quadrilateral with opposite sides parallel.



2 pair of op. sides \parallel
 op. sides \cong
 op. \angle s \cong
 diags bisect each other
 con. int \angle s suppl.

2. Rectangle:

A parallelogram with 4 right angles.

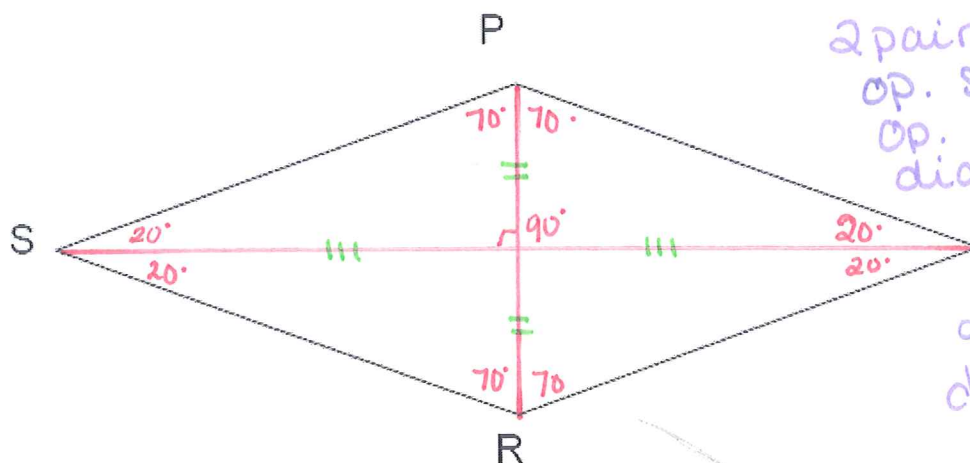


Def: 4 Right \angle s
 • 2 pairs of op. sides \parallel
 • op. sides \cong
 • op. \angle s \cong

• diags bisect each other
 • diags are \cong
 • con. int. \angle s are suppl.

3. Rhombus:

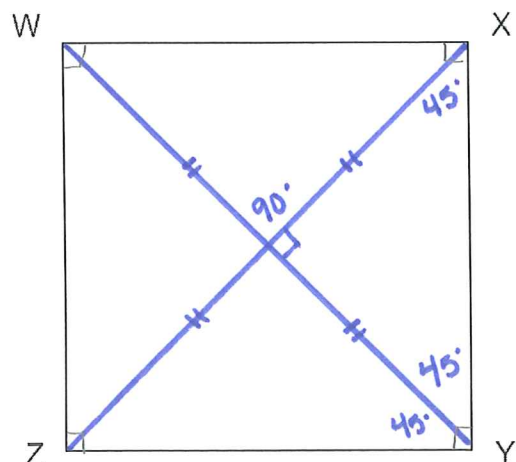
A parallelogram with 4 congruent sides.



Def: 4 \cong sides
 2 pair of op. sides \parallel
 op. sides \cong
 op. \angle s \cong
 diags bisect each other
 con. int \angle s are suppl.
 diags are \perp
 diags bisect the \angle s

4. Square:

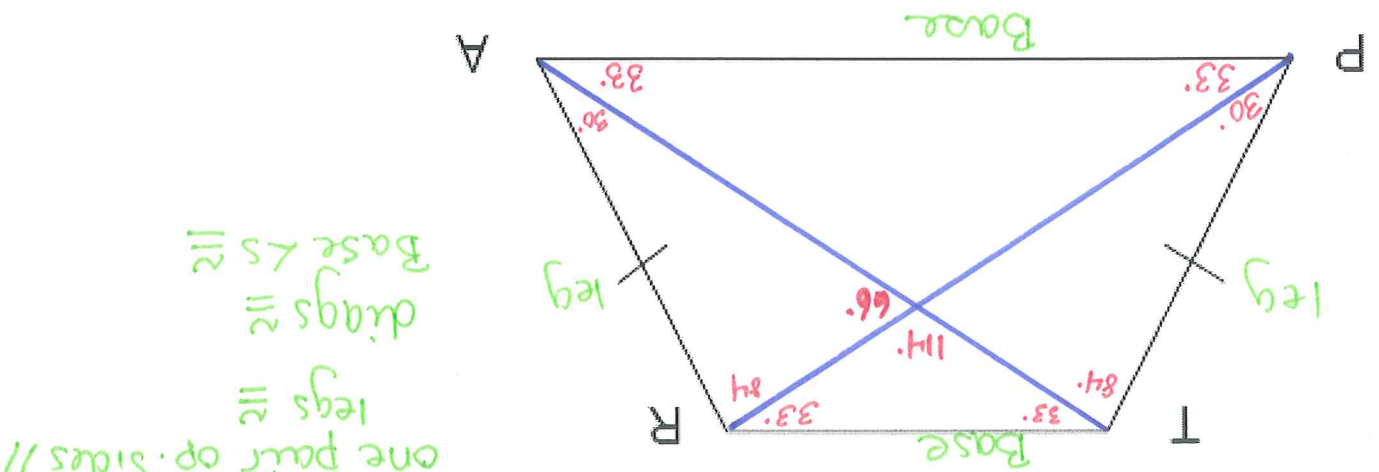
A parallelogram with 4 right angles and 4 congruent sides.



Def: 4 \cong sides AND 4 RT \angle s
 2 pairs of op. sides \parallel
 op. sides \cong
 op. \angle s \cong
 diags bisect each other
 diags are \cong
 diags are \perp to each other
 diags bisect the angles!

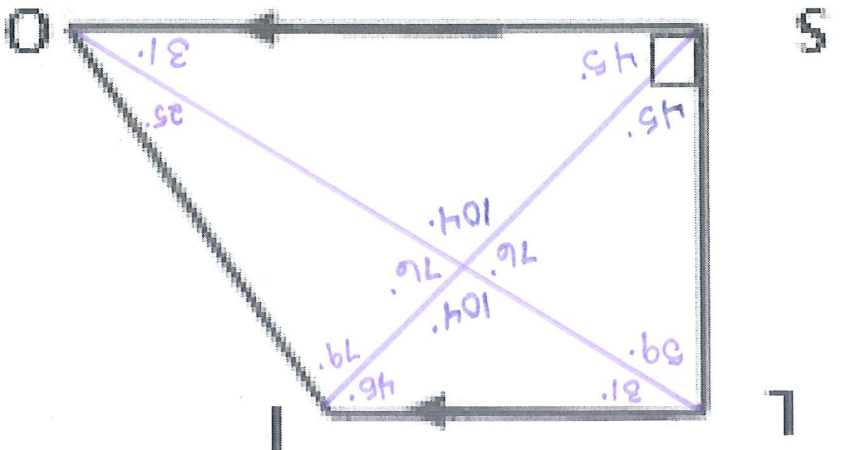
5. Isosceles Trapezoid:

A quadrilateral with one pair of opposite sides parallel (called the bases) and the non-parallel sides (called the legs) congruent.

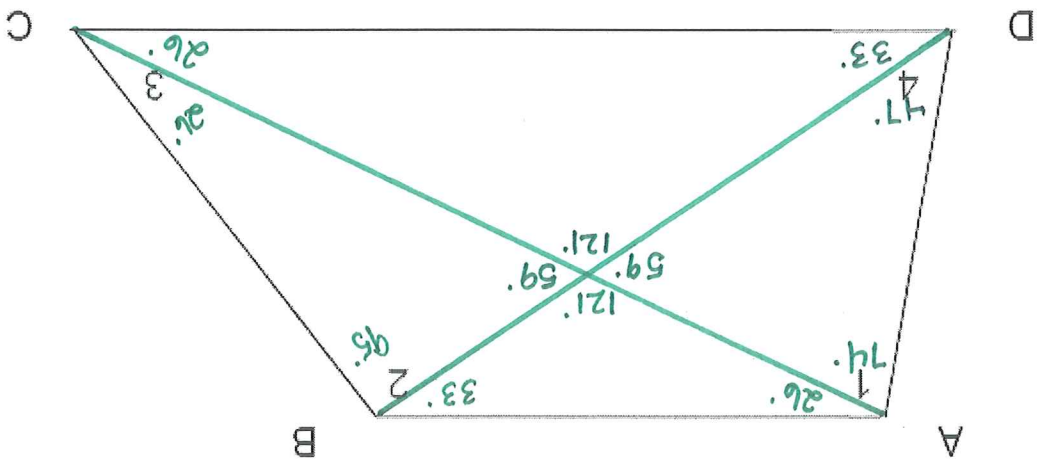


6. Right Trapezoid:

A quadrilateral with one pair of opposite sides parallel (called the bases) and one non-parallel side (called the leg) is perpendicular to the bases.



7. General Trapezoid:
A quadrilateral with one pair of opposite sides parallel (called the bases) and the non-parallel sides (called the legs).



8. Kite:

A quadrilateral with consecutive sides congruent.

diags are \perp

