

Day 7 hw

Geometry (H)

Section 5.4 – Identifying Quads in the Coordinate Plane

Directions: Graph each quadrilateral then determine the type of quadrilateral: rectangle, rhombus, square or parallelogram. Join the vertices in the given order. Use must use slope or distance to verify the type of quadrilateral.

1. H(-1,3) A(3,2) T(1,-1) S(-3,0)

3. C(-2,1) O(0,2) W(1,0) S(-1,-1)

4. K(3,1) I(3,-3) T(-2,-3) E(-2,1)

6. C(5,2) A(2,5) K(-1,2) E(2,-1)

7. N(5,2) I(1,9) C(-3,2) E(1,-5)

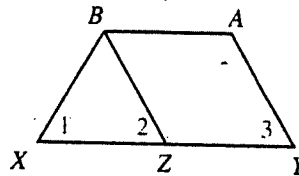
5-4 Special Parallelograms

28. Given: $\square ABZY$; $\overline{ZY} \cong \overline{BX}$;
 $\angle 1 \cong \angle 2$

Prove: $ABZY$ is a rhombus.

29. Given: $\square ABZY$; $\overline{AY} \cong \overline{BX}$

Prove: $\angle 1 \cong \angle 2$ and $\angle 1 \cong \angle 3$



30. Given: Rectangle $QRST$;

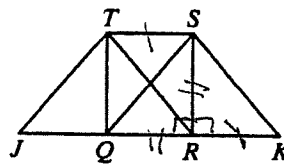
$\square RKST$

Prove: $\triangle QSK$ is isosceles.

31. Given: Rectangle $QRST$;

$\square RKST$; $\square JQST$

Prove: $\overline{JT} \cong \overline{KS}$



34. Prove: If the diagonals of a parallelogram are perpendicular, then the parallelogram is a rhombus.

The coordinates of three vertices of a rhombus are given, not necessarily in order. Plot the points and find the coordinates of the fourth vertex. Measure the sides to check your answer.

38. $O(0, 0)$, $L(5, 0)$, $D(4, 3)$, $V(\underline{\quad}, \underline{\quad})$

Section 5.4 – Special Parallelogram continued ...

1. Put an X in the box if the shape has the given properties.

Property	Parallelogram	Rectangle	Rhombus	Square
Both pairs of opposite sides //				
Diagonals are \perp				
Diagonals are \cong				
Diagonals bisect each other				
All angles are right angles				
One pair of opposite sides \cong				
All sides are \cong				
Both pairs of opposite angles \cong				
Diagonals bisect the angles they are drawn from				
All angles are \cong				

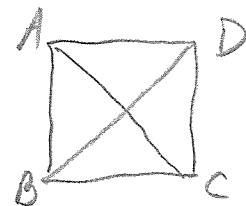
2. Let's prove the properties we discovered yesterday!

Thm: The diagonals of a rectangle are congruent.

Given: *rectangle ABCD*

Prove: $\overline{AC} \cong \overline{BD}$

Diagram:

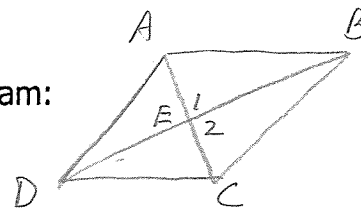


Thm: The diagonals of a rhombus are perpendicular.

Given: rhombus ABCD

Prove: $\overline{AC} \perp \overline{BD}$

Diagram:



Thm: Each diagonal of a rhombus bisects the angles they are drawn from.

Given: rhombus ABCD

Prove: \overline{AC} bisects $\angle DAB$ and $\angle BCD$
 \overline{BD} bisects $\angle ADC$ and $\angle ABC$

Diagram:

