Quadrilaterals

- 4 sided figure
- $\angle$'s sum to 360°

distance $= \sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

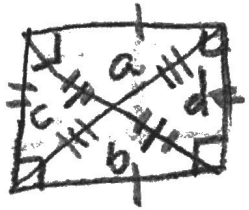
slope $= \frac{y_2-y_1}{x_2-x_1} = \frac{\text{rise}}{\text{run}}$

$a^2+b^2=c^2$

* right $\angle$ – to find missing side of a $\triangle$

Parallelograms

Rectangle

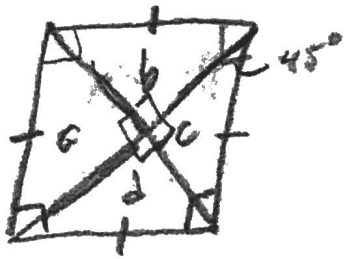


* 4 right $\angle$'s
* Diag. are $\cong$

Rhombus

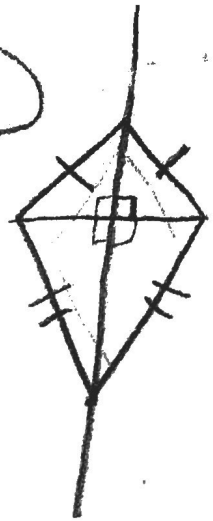
* Diags. $\perp$
* Diag. bisect opp. $\angle$'s
* 4 $\cong$ sides

Square



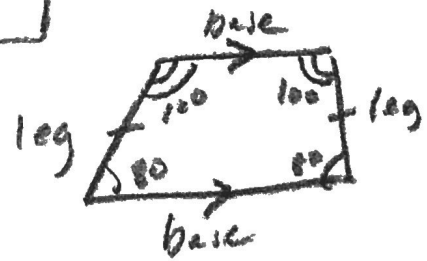
$\triangle A \cong \triangle B \cong \triangle C \cong \triangle D$

Kites



Trapezoids

Iso Trap

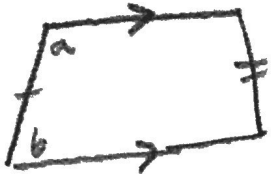


base $\angle$'s $\cong$

Opp $\angle$'s supplementary

midsegment $= \frac{B_1+B_2}{2}$

Non-Iso Traps



$\angle a + \angle b = 180°$

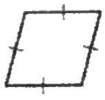
Name _____ Date _____ Class _____

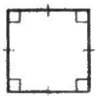
LESSON 7-3

Practice A

Properties of Special Parallelograms

Match each figure with the letter of one of the vocabulary terms. Use each term once.

1. 

2. 

3. 

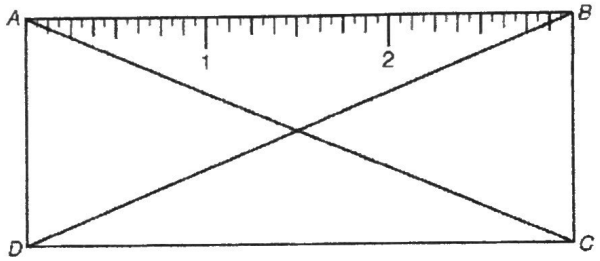
A. rectangle
B. rhombus
C. square

B _____ C _____ A _____

Fill in the blanks to complete each theorem.

4. If a parallelogram is a rhombus, then its diagonals are perpendicular.
5. If a parallelogram is a rectangle, then its diagonals are congruent.
6. If a quadrilateral is a rectangle, then it is a parallelogram.
7. If a parallelogram is a rhombus, then each diagonal bisects a pair of opposite angles.
8. If a quadrilateral is a rhombus, then it is a parallelogram.

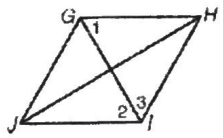
The part of a ruler shown is a rectangle with $AB = 3$ inches and $BD = 3\frac{1}{4}$ inches.



Find each length.

9. $DC =$ 3 in
10. $AC =$ 3 1/4 in.

Use the phrases and theorems from the Word Bank to complete this two-column proof.



Word Bank
Alternate Interior ∠ Thm.
GHIJ is a parallelogram.
Trans. Prop. of ≅
∠2 ≅ ∠3

11. **Given:** *GHIJ* is a rhombus.
Prove: ∠1 ≅ ∠3

Statements	Reasons
1. *GHIJ* is a rhombus.	1. Given
2. a. GHIJ is a parallelogram	2. rhomb. → ▱
3. $\overline{GH} \parallel \overline{JI}$	3. ▱ → opp. sides ∥
4. ∠1 ≅ ∠2	4. b. Alt interior ∠'s Theorem
5. c. ∠2 ≅ ∠3	5. rhomb. → each diag. bisects opp. ∠
6. ∠1 ≅ ∠3	6. d. Trans prop of ≅