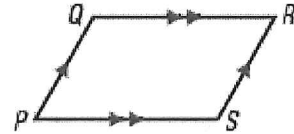


Name: Key

Hour: _____

Practice Examples: Parallelogram Properties HW DAY 2

Parallelogram –



Notation:

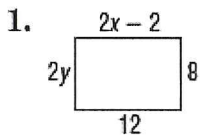
Properties of Parallelograms:

If a quadrilateral is a parallelogram, then...

1. **op. sides are \cong**
2. **op \angle s are \cong**
3. **diags bisect each other**
4. **con. int \angle s are suppl.**
5. **op. sides are \parallel .**

Make sure you justify your set up (your properties)!

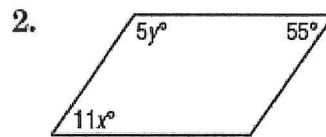
Find x and y so that each quadrilateral is a parallelogram.



$2y = 8$
 $y = 4$

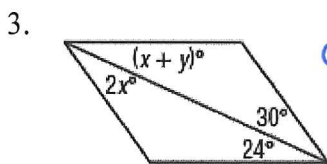
op. sides of a Para are \cong

$2x - 2 = 12$
 $2x = 14$
 $x = 7$



op. \angle s are \cong
 $11x = 55$
 $x = 5$

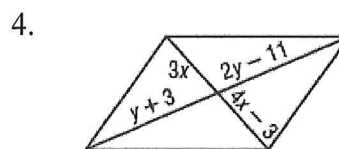
con. int \angle s are suppl.
 $5y + 55 = 180$
 $5y = 125$
 $y = 25$



$2x = 30$
 $x = 15$

alt. int \angle s are \cong

$24 = 15 + y$
 $9 = y$

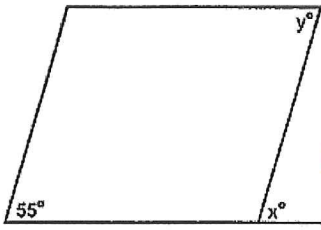


$3x = 4x - 3$
 $x = 3$

Diags. of a para bisect each other

$y + 3 = 2y - 11$
 $3 = y - 11$
 $14 = y$

5.



Alt. int. \angle s are \cong

$$x = y$$

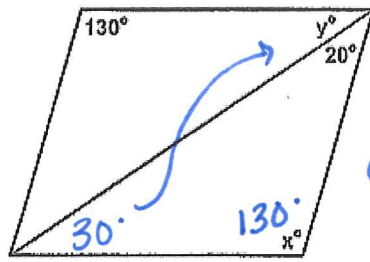
$$x = 55^\circ$$

op. \angle s of a para

are \cong

$$y = 55^\circ$$

6.



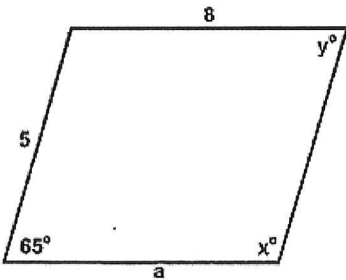
op. \angle s are \cong

$$x = 130^\circ$$

alt. int \angle s
and Δ sum

$$y = 30^\circ$$

7.



op. Sides are \cong

$$a = 8$$

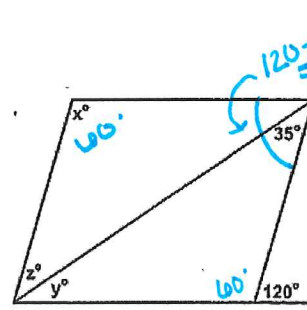
op. \angle s are \cong

$$y = 65^\circ$$

con. int. \angle s are Suppl.

$$x = 115^\circ$$

8.



$$x = 60^\circ$$

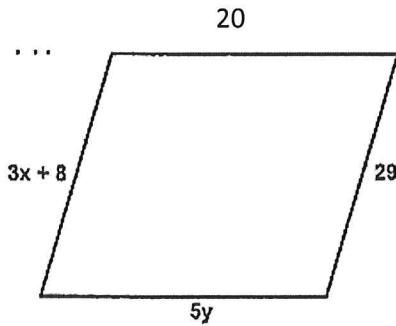
op. \angle are \cong

$$y = 85^\circ$$

alt. int
 \angle s are \cong

$$z = 35^\circ$$

9.



op. sides are \cong

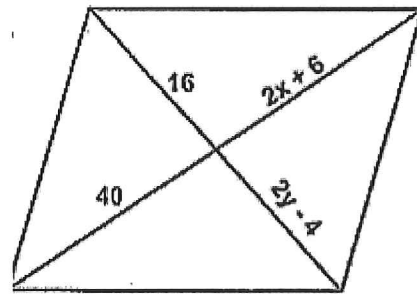
$$3x + 8 = 29$$

$$x = 7$$

$$5y = 20$$

$$y = 4$$

10.



diags bisect each other

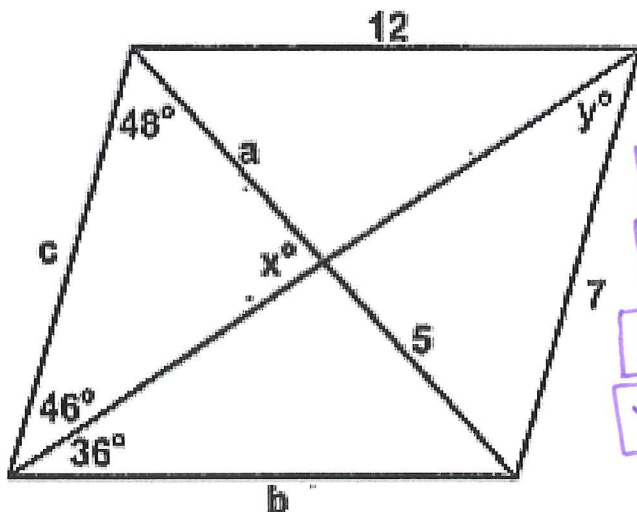
$$40 = 2x + 6$$

$$x = 17$$

$$16 = 2y - 4$$

$$y = 10$$

11.



$$a = 5$$

$$b = 12$$

$$c = 7$$

$$x = 86^\circ \Delta \text{ sum}$$

alt. int. \angle s
are \cong

$$y = 46^\circ$$