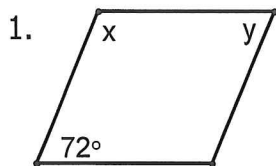


Parallelogram Examples

Day 2- Algebra

Find x and y for each parallelogram. Show the property you used in solving for the variables.



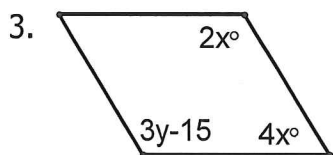
Find x : con. int. \angle s are suppl.

$$x + 72 = 180$$

$$\boxed{x = 108^\circ}$$

Find y op. \angle s of a para are \cong

$$\boxed{y = 72^\circ}$$



Find x con. int \angle s are suppl.

$$2x + 4x = 180$$

$$6x = 180$$

$$\boxed{x = 30}$$

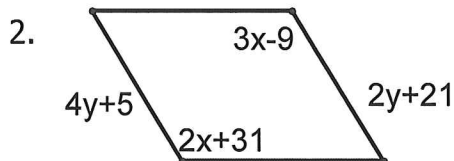
Find y op. \angle s of a para are \cong

$$2(30) = 3y - 15$$

$$60 = 3y - 15$$

$$75 = 3y$$

$$\boxed{25 = y}$$



Find x op. \angle s of a para are \cong

$$3x - 9 = 2x + 31$$

$$x - 9 = 31$$

$$\boxed{x = 40^\circ}$$

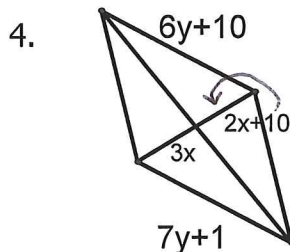
Find y op. sides of a para are \cong

$$4y + 5 = 2y + 21$$

$$2y + 5 = 21$$

$$2y = 16$$

$$\boxed{y = 8}$$



Find x diags of a para bisect each other

$$3x = 2x + 10$$

$$\boxed{x = 10}$$

Find y op. sides of a Para are \cong

$$6y + 10 = 7y + 1$$

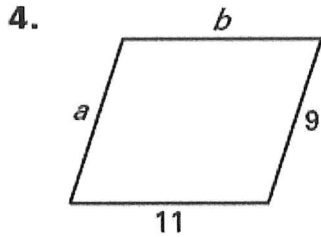
$$10 = y + 1$$

$$\boxed{9 = y}$$

Advanced Examples:

Show the property you used in solving for the variables.

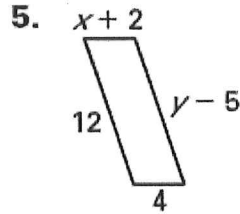
Find the value of each variable in the parallelogram.



op. sides of a Para are \cong

$$\boxed{a = 9}$$

$$\boxed{b = 11}$$



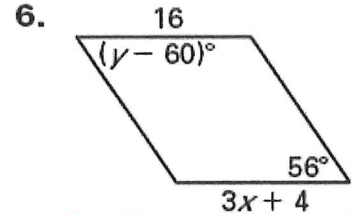
op. sides of a Para are \cong

$$4 = x + 2$$

$$\boxed{2 = x}$$

$$12 = y - 5$$

$$\boxed{17 = y}$$



op. sides of a para are \cong

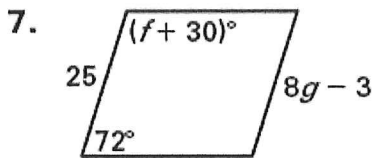
$$3x + 4 = 16$$

$$3x = 12$$

$$\boxed{x = 4}$$

op. \angle s of a para are \cong

$$y - 60 = 56$$

$$\boxed{y = 116}$$


op. sides of a para are \cong

$$25 = 8g - 3$$

$$28 = 8g$$

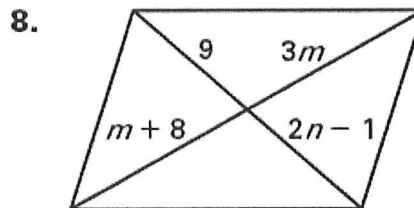
$$\boxed{g = 3.5}$$

$$f + 30 + 72 = 180$$

$$f + 102 = 180$$

$$\boxed{f = 78}$$

con. int \angle s are suppl.



diags of a para bisect each other

$$9 = 2n - 1$$

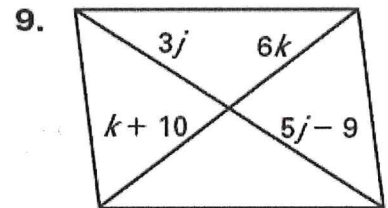
$$10 = 2n$$

$$\boxed{5 = n}$$

$$3m = m + 8$$

$$2m = 8$$

$$\boxed{m = 4}$$



Diags bisect each other in a Para.

$$6k = k + 10$$

$$5k = 10$$

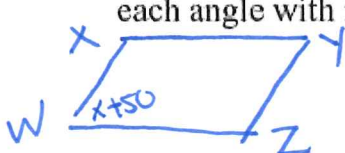
$$\boxed{k = 2}$$

$$3j = 5j - 9$$

$$-2j = -9$$

$$\boxed{j = 4.5}$$

10. In $\square WXYZ$, $m\angle W$ is 50 degrees more than $m\angle X$. Sketch $\square WXYZ$. Find the measure of each interior angle. Then label each angle with its measure.

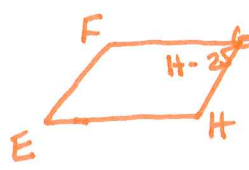


$$x + 50 + x = 180$$

$$2x + 50 = 180$$

$$\boxed{x = 65}$$

11. In $\square EFGH$, $m\angle G$ is 25 degrees less than $m\angle H$. Sketch $\square EFGH$. Find the measure of each interior angle. Then label each angle with its measure.



$$h - 25 + h = 180$$

$$2h - 25 = 180$$

$$2h = 205$$

$$\boxed{h = 102.5}$$