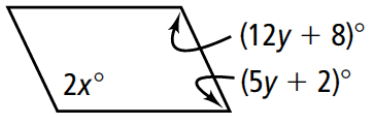
Name: _____

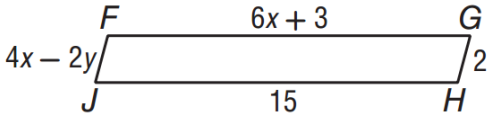
6.2 ~ Properties of Parallelograms

Past due on: _____ Period: _____

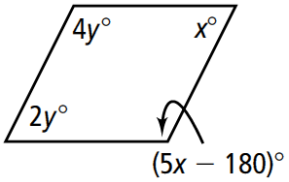
Use the properties of parallelograms to set up and solve equations to find the value of the variables.
No systems of equations are necessary to solve these problems.

1. 

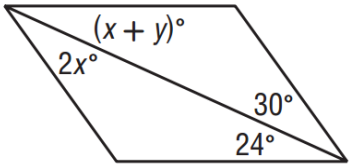
x = _____ y = _____

2. 

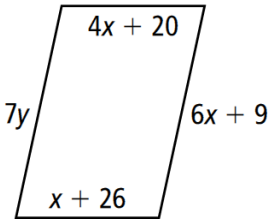
x = _____ y = _____

3. 

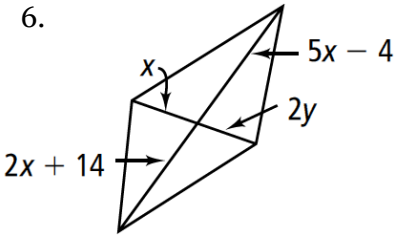
x = _____ y = _____

4. 

x = _____ y = _____

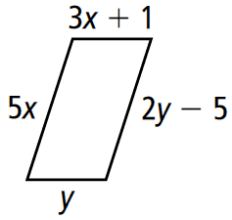
5. 

x = _____ y = _____

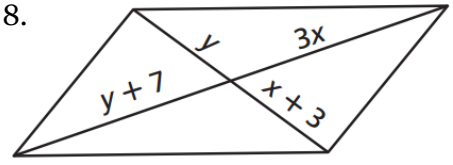
6. 

x = _____ y = _____

Use the properties of parallelograms to set up and solve a system of equations to find the value of the variables.

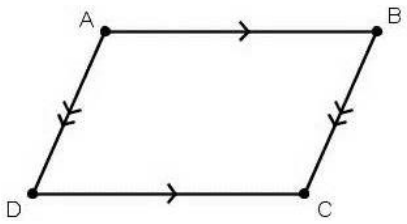
7. 

x = _____ y = _____

8. 

x = _____ y = _____

PROBLEMS 9 – 12: USE PARALLELOGRAM ABCD (AS SHOWN).



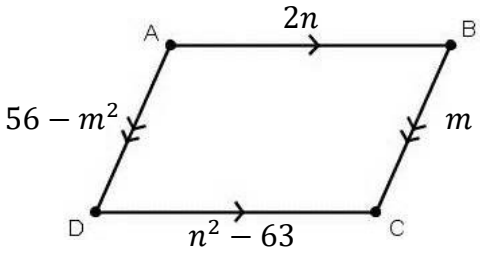
9. Given: $AB = x + 5, AD = x + 9, \& \; DC = 2x + 1$. Set up and solve an equation to find the value of x. Then find the perimeter of *ABCD*.

10. Given: $m\angle A = x \; \& \; m\angle D = 3x - 4$. Set up and solve an equation to find the value of x. Then find $m\angle B$ and $m\angle C$.

11. Given: $AD = x + 5, DC = 2x + 3, m\angle B = 40°, \& \; m\angle D = 4x + 12$. Set up and solve an equation to find the value of x. Then find $m\angle A$ and the perimeter of *ABCD*.

12. Given: $m\angle A = x + 3y$, $m\angle B = x - 4$, and $m\angle C = 4y - 8$. Set up and solve a system of equations to find the values of x and y. Then find the $m\angle A$ and $m\angle D$.

13. *ABCD* is a parallelogram. Set up and solve **TWO** quadratic equations to find the values of m and n (that make sense). Then find the perimeter of *ABCD*.



14. Show that *JKLM* is a parallelogram by definition: that both pairs of opposite sides are parallel.