Geometry A
8.2 Properties of Parallelograms Notes

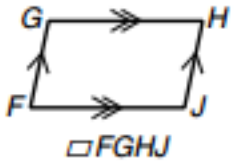
Name: _____
Date: _____ Period: _____

- I can use properties of parallelograms to find side lengths and angle measures.
- I can apply my knowledge of parallelograms to solve problems on the coordinate plane.

Definition of Parallelogram

A parallelogram is a quadrilateral in which both pairs of opposite sides are parallel.

Example: *If FGHJ is a parallelogram, then:*



Properties of Parallelograms

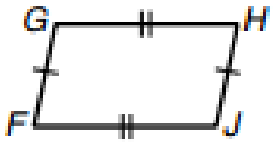
If a quadrilateral is a parallelogram, then…

opposite sides are _____.

Example: *If FGHJ is a parallelogram, then:*

_____ ≅ _____

_____ ≅ _____

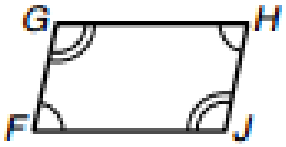


opposite angles are _____.

Example: *If FGHJ is a parallelogram, then:*

_____ ≅ _____

_____ ≅ _____



consecutive angles are _____.

Example: *If FGHJ is a parallelogram, then:*

_____ + _____ = 180°

_____ + _____ = 180°

_____ + _____ = 180°

_____ + _____ = 180°

the diagonals _____ each other.

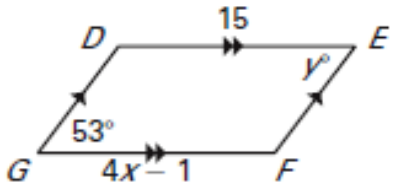
Example: *If FGHJ is a parallelogram, then:*

_____ ≅ _____

_____ ≅ _____

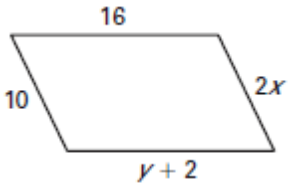
Example 1 – Use Properties of Parallelograms

Find the values of *x* and *y*. Justify your answer.

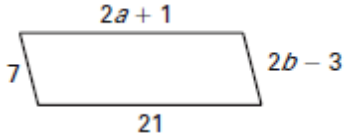


Practice: Find the value of each variable in the parallelogram. Justify your answer.

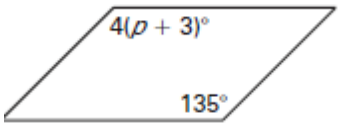
1.



2.



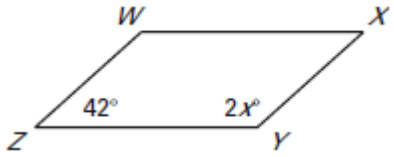
3.



4.

Example 2 – Use Properties of Parallelogram

Find the value of *x* in ▱*WXYZ* . Justify your answer.



Find the indicated measure in ▱*PQRS* .

5. PR

6. ST

7. $m\angle SRQ$

8. $m\angle PQR$