

Name _____

Date _____

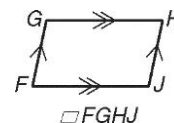
Period _____

Notes 6-2: Properties of Parallelograms

- Objectives: 1. Prove and apply properties of parallelograms.
2. Use properties of parallelograms to solve problems.

A parallelogram is a quadrilateral with _____ pairs of _____ sides.

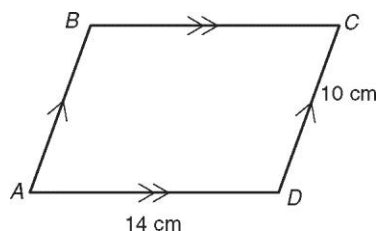
All parallelograms, such as $\square FGHJ$, have the following properties.



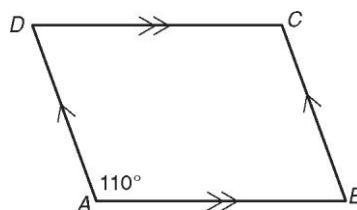
Properties of Parallelograms	
$\overline{FG} \cong \overline{HJ}$ $\overline{GH} \cong \overline{FJ}$	$\angle F \cong \angle H$ $\angle G \cong \angle J$
Opposite sides are _____.	Opposite _____ are congruent.
$m\angle F + m\angle G = 180^\circ$ $m\angle G + m\angle H = 180^\circ$ $m\angle H + m\angle J = 180^\circ$ $m\angle J + m\angle F = 180^\circ$	$\overline{FP} \cong \overline{HP}$ $\overline{GP} \cong \overline{JP}$
Consecutive angles are _____.	The diagonals _____ each other.

Find each measure.

1. AB



2. $m\angle D$



Find each measure in $\square LMNP$.

3. ML

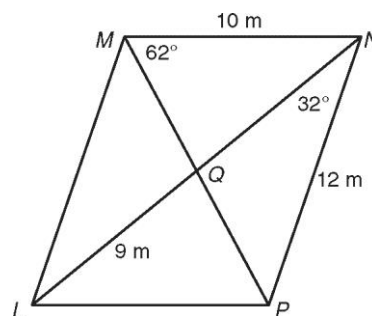
4. LP

5. $m\angle LPM$

6. LN

7. $m\angle MLN$

8. QN



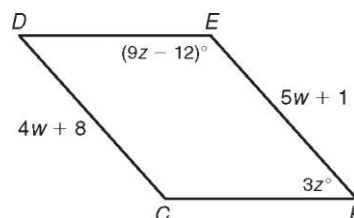
CDEF is a parallelogram. Find each measure.

9. CD

10. EF

11. $m\angle F$

12. $m\angle E$



Classify each statement as true or false.

13. Every parallelogram is a quadrilateral.

14. Every quadrilateral is a parallelogram.

15. All angles of a parallelogram are congruent.

16. All sides of a parallelogram are congruent.

17. In $\square RSTU$, $\overline{RS} \parallel \overline{TU}$.

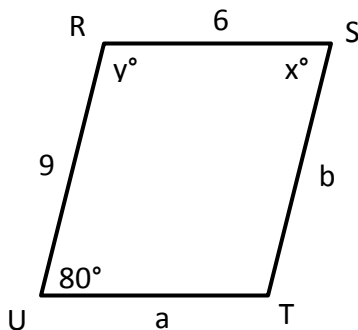
18. In $\square ABCD$, if $m\angle A = 50^\circ$, then $m\angle C = 130^\circ$.

19. In $\square XWYZ$, $\overline{XY} \cong \overline{WZ}$.

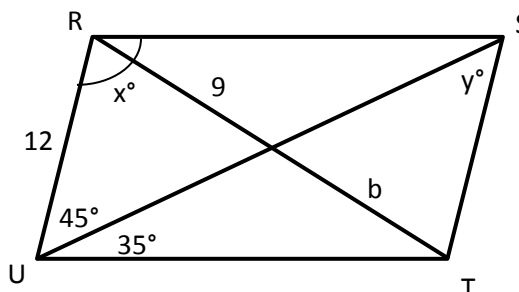
20. In $\square ABCD$, \overline{AC} and \overline{BD} bisect each other.

In Exercises 21 and 22, quad RSTU is a parallelogram. Find the values of x , y , a , and b .

21.

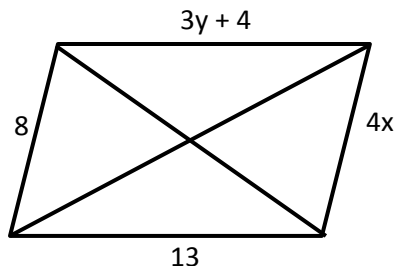


22.



Each figure in Exs. 23 and 24 is a parallelogram with its diagonals drawn. Find the values of x and y .

23.



24.

