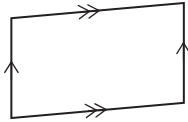


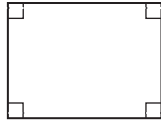
LESSON 164 Review: Properties of Quadrilaterals

1. Which quadrilateral is a parallelogram?
Select all that apply.

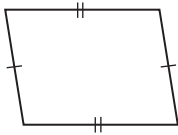
A)



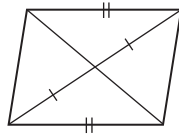
B)



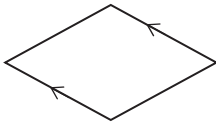
C)



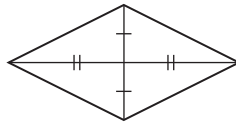
D)



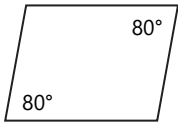
E)



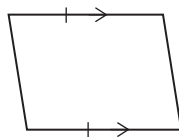
F)



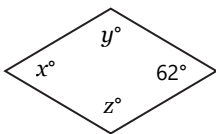
G)



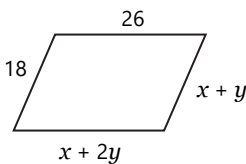
H)



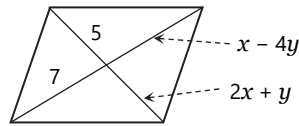
2. Find the missing angle measures in the parallelogram.



3. What values of x and y would make the quadrilateral a parallelogram?

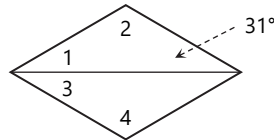


4. What values of x and y would make the quadrilateral a parallelogram?

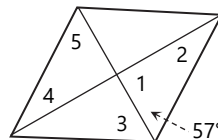


5. Two consecutive angles in a parallelogram are in the ratio 1:3. What are the measures of the four angles of the parallelogram?

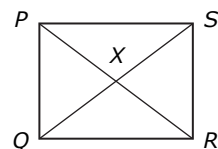
6. Find the measures of the numbered angles in the rhombus.



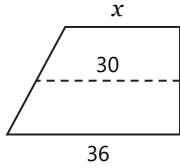
7. Find the measures of the numbered angles in the rhombus.



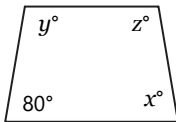
8. Find the lengths of the diagonals of rectangle $PQRS$ if $PR = 5x - 11$ and $QS = x + 5$.



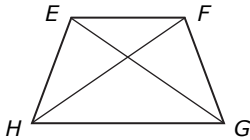
9. The dashed segment is the midsegment of the trapezoid. What is the value of x ?



10. Find the missing angle measures in the isosceles trapezoid.

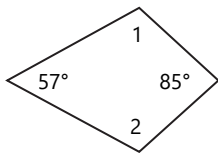


11. Quadrilateral $EFGH$ is an isosceles trapezoid. Which statement is not true?

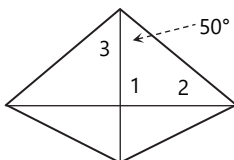


- A) $\overline{EF} \parallel \overline{HG}$ B) $\overline{EH} \cong \overline{FG}$
 C) $\overline{EG} \perp \overline{FH}$ D) $\overline{EG} \cong \overline{FH}$

12. Find the measures of the numbered angles in the kite.

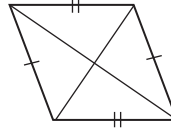


13. Find the measures of the numbered angles in the kite.



14. Name all quadrilaterals whose diagonals bisect each other.

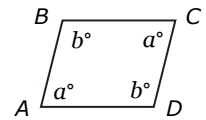
15. Which additional information would prove this quadrilateral is a rhombus?



- A) The opposite sides are parallel.
 B) The opposite angles are congruent.
 C) The diagonals are congruent.
 D) The diagonals are perpendicular.

16. Complete the proof of the Parallelogram Opposite Angles Converse [57.2].

Given: $\angle A \cong \angle C$,
 $\angle B \cong \angle D$



Prove: $ABCD$ is a \square .

| STATEMENTS | REASONS |
|---|--|
| 1. Let $m\angle A = m\angle C = a$. Let $m\angle B = m\angle D = b$. | 1. Given, Def. of congruent \angle s |
| 2. $a + b + a + b = 360^\circ$ | 2. |
| 3. $2(a + b) = 360^\circ$ | 3. |
| 4. $a + b = 180^\circ$ | 4. |
| 5. a, b supplementary | 5. |
| 6. $\overline{BA} \parallel \overline{CD}, \overline{BC} \parallel \overline{AD}$ | 6. |
| 7. $ABCD$ is a \square . | 7. |

17. (HONORS) List three ways to prove a quadrilateral is a parallelogram using sides. (*Hint:* Don't forget the definition of parallelogram.)