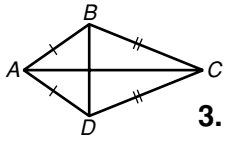
Name _____ Date _____ Class _____

LESSON 6-6

Practice B

Properties of Kites and Trapezoids

In kite *ABCD*, m∠*BAC* = 35° and m∠*BCD* = 44°. For Exercises 1–3, find each measure.

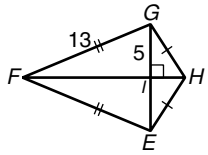


1. m∠*ABD* _____

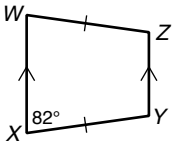
2. m∠*DCA* _____

3. m∠*ABC* _____

4. Find the area of △*EFG*. _____



5. Find m∠*Z*.



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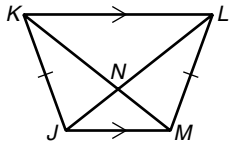
6. *KM* = 7.5, and *NM* = 2.6. Find *LN*.



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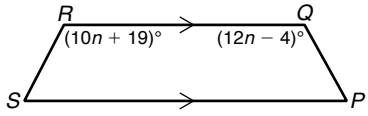
7. Find the value of *n* so that *PQRS* is isosceles.



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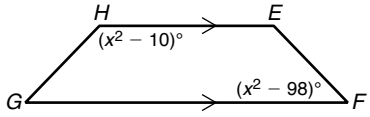
8. Find the value of *x* so that *EFGH* is isosceles.



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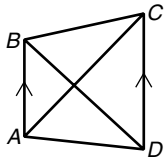
9. *BD* = 7*a* − 0.5, and *AC* = 5*a* + 2.3. Find the value of *a* so that *ABCD* is isosceles.



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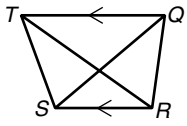
10. *QS* = $8z^2$, and *RT* = $6z^2 + 38$. Find the value of *z* so that *QRST* is isosceles.



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Use the figure for Exercises 11 and 12. The figure shows a *ziggurat.* A ziggurat is a stepped, flat-topped pyramid that was used as a temple by ancient peoples of Mesopotamia. The dashed lines show that a ziggurat has sides roughly in the shape of a trapezoid.

11. Each "step" in the ziggurat has equal height. Give the vocabulary term for $\overline{MN}$.

_____

12. The bottom of the ziggurat is 27.3 meters long, and the top of the ziggurat is 11.6 meters long. Find *MN*.

_____

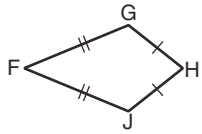
Name _____ Date _____ Class _____

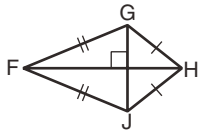
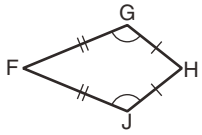
LESSON 6-6

Review for Mastery

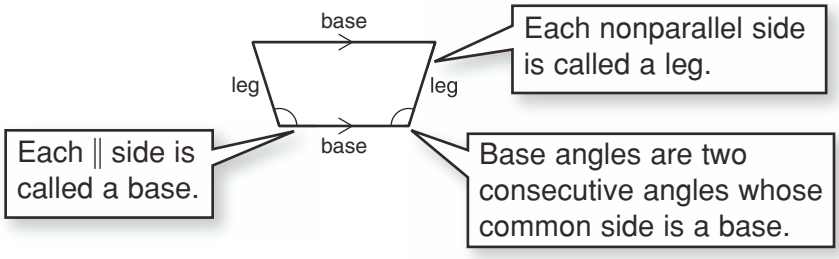
Properties of Kites and Trapezoids

A **kite** is a quadrilateral with exactly two pairs of congruent consecutive sides. If a quadrilateral is a kite, such as *FGHJ*, then it has the following properties.



Properties of Kites	
 $\overline{FH} \perp \overline{GJ}$	 $\angle G \cong \angle J$
The diagonals are perpendicular.	Exactly one pair of opposite angles is congruent.

A **trapezoid** is a quadrilateral with exactly one pair of parallel sides. If the legs of a trapezoid are congruent, the trapezoid is an **isosceles trapezoid.**



Isosceles Trapezoid Theorems
• In an isosceles trapezoid, each pair of base angles is congruent. • If a trapezoid has one pair of congruent base angles, then it is isosceles. • A trapezoid is isosceles if and only if its diagonals are congruent.

In kite *ABCD*, m∠*BCD* = 98°, and m∠*ADE* = 47°. Find each measure.

1. m∠*DAE*

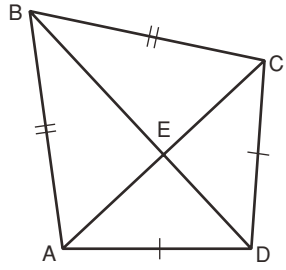
_____

2. m∠*BCE*

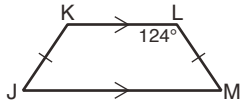
_____

3. m∠*ABC*

_____



4. Find m∠*J* in trapezoid *JKLM*.



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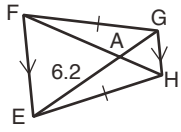
5. In trapezoid *EFGH*, *FH* = 9. Find *AG*.



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