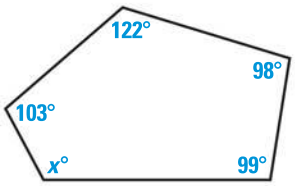
8 CHAPTER TEST

Find the value of x.

1.



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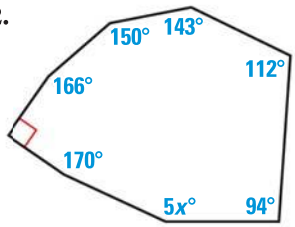

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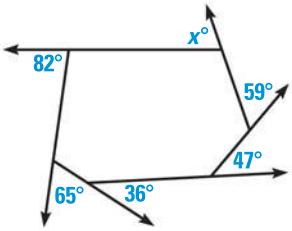
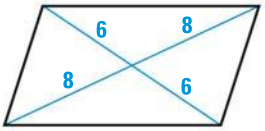


4. In $\square EFGH$, $m\angle F$ is 40° greater than $m\angle G$. Sketch $\square EFGH$ and label each angle with its correct angle measure. *Explain* your reasoning.

Are you given enough information to determine whether the quadrilateral is a parallelogram? *Explain* your reasoning.

5.

6.



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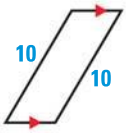


In Exercises 8–11, list each type of quadrilateral—*parallelogram*, *rectangle*, *rhombus*, and *square*—for which the statement is always true.

8. It is equilateral.

9. Its interior angles are all right angles.

10. The diagonals are congruent.

11. Opposite sides are parallel.

12. The vertices of quadrilateral $PQRS$ are $P(-2, 0)$, $Q(0, 3)$, $R(6, -1)$, and $S(1, -2)$. Draw $PQRS$ in a coordinate plane. Show that it is a trapezoid.

13. One side of a quadrilateral $JKLM$ is longer than another side.

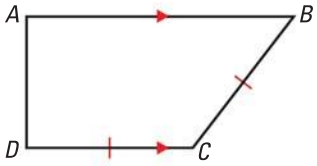
a. Suppose $JKLM$ is an isosceles trapezoid. In a coordinate plane, find possible coordinates for the vertices of $JKLM$. *Justify* your answer.

b. Suppose $JKLM$ is a kite. In a coordinate plane, find possible coordinates for the vertices of $JKLM$. *Justify* your answer.

c. Name other special quadrilaterals that $JKLM$ could be.

Give the most specific name for the quadrilateral. *Explain* your reasoning.

14.



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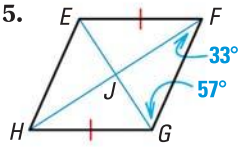

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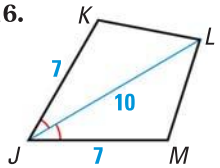

17. In trapezoid $WXYZ$, $\overline{WX} \parallel \overline{YZ}$, and $YZ = 4.25$ centimeters. The midsegment of trapezoid $WXYZ$ is 2.75 centimeters long. Find WX.

18. In $\square RSTU$, $\overline{RS}$ is 3 centimeters shorter than $\overline{ST}$. The perimeter of $\square RSTU$ is 42 centimeters. Find RS and ST.