8 CHAPTER TEST

Additional Resources

Assessment Book

- Chapter Test, Levels A, B, C, pp. 113–118
- Standardized Chapter Test, pp. 119–120
- SAT/ACT Chapter Test, pp. 121–122
- Alternative Assessment, pp. 123–124

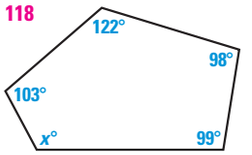
Test Generator CD-ROM

Chapter Test

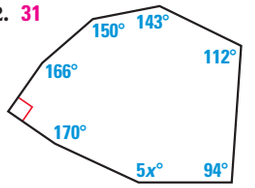
Easily-readable reduced copies (with answers) of Chapter Test B, the Standardized Chapter Test, and the Alternative Assessment from the Assessment Book can be found on pp. 504G–504H.

Find the value of x.

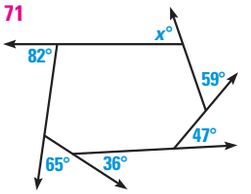
1. 118



2. 31



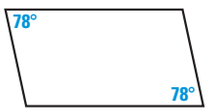
3. 71



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. See margin for art; Consecutive angles are supplementary, therefore $x + (x + 40) = 180$.

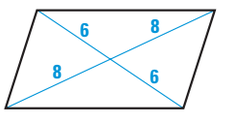
Are you given enough information to determine whether the quadrilateral is a parallelogram? *Explain* your reasoning.

5.



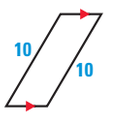
No; the sides might not be parallel.

6.



Yes; diagonals bisect one another.

7.



No; it could be a trapezoid.

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. rhombus, square

9. Its interior angles are all right angles. rectangle, square

10. The diagonals are congruent. rectangle, square

11. Opposite sides are parallel. parallelogram, rectangle, rhombus, square

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. See margin for art; $\overline{PS} \parallel \overline{QR}$ and $\overline{SR}$ is not parallel to $\overline{PQ}$.

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

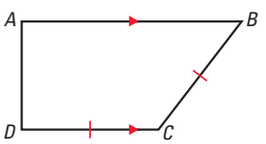
a. Suppose $JKLM$ is an isosceles trapezoid. In a coordinate plane, find possible coordinates for the vertices of $JKLM$. *Justify* your answer.

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

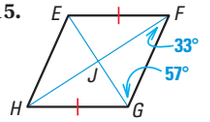
c. Name other special quadrilaterals that $JKLM$ could be. trapezoid, parallelogram, rectangle

Give the most specific name for the quadrilateral. *Explain* your reasoning. 14–16. See margin.

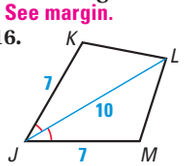
14.



15.



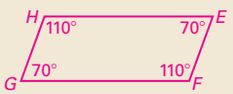
16.



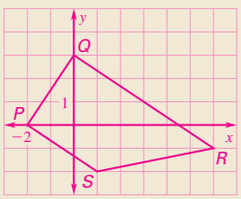
17. In trapezoid $WXYZ$, $\overline{WX} \parallel \overline{YZ}$, and $YZ = 4.25$ centimeters. The midsegment of trapezoid $WXYZ$ is 2.75 centimeters long. Find WX. 1.25 cm

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. 9 cm, 12 cm

4.



12.



14. Trapezoid; only one pair of opposite sides are known to be parallel.

15. Rhombus; diagonals of a rhombus are perpendicular but you don't know that the angle measure of the vertices is 90°.

16. Kite; *JKLM* has a pair of consecutive congruent sides and the angle is bisected.

13a. ***Sample answer:*** $J(4, 0)$, $K(2, 2)$, $L(-2, 2)$, $M(-4, 0)$; $\overline{JM} \parallel \overline{KL}$, $\overline{JK} \cong \overline{LM}$, and $\overline{JK}$ is not parallel to $\overline{LM}$.

13b. ***Sample answer:*** $J(2, 0)$, $K(0, 1)$, $L(-2, 0)$, $M(0, -5)$; two consecutive pairs of sides are congruent.