

GUIDED PRACTICE

Vocabulary Check ✓

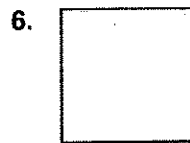
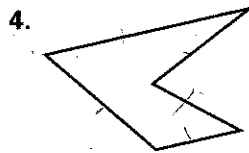
1. What is the plural of *vertex*?
2. What do you call a polygon with 8 sides? a polygon with 15 sides?

Concept Check ✓

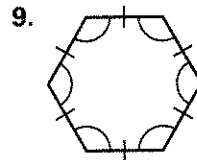
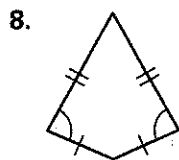
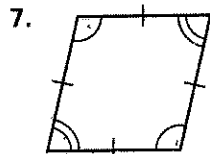
3. Suppose you could tie a string tightly around a convex polygon. Would the length of the string be equal to the perimeter of the polygon? What if the polygon were concave? Explain.

Skill Check ✓

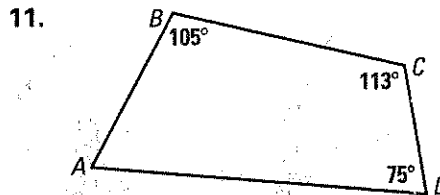
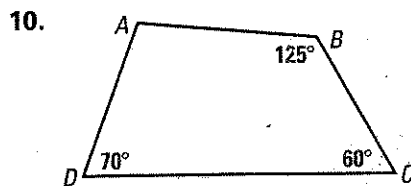
Decide whether the figure is a polygon. If it is not, explain why.



Tell whether the polygon is best described as *equiangular*, *equilateral*, *regular*, or *none of these*.



Use the information in the diagram to find $m\angle A$.

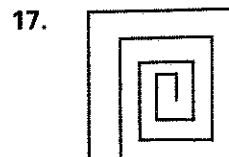
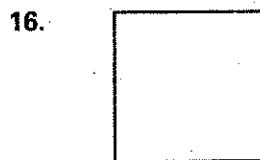
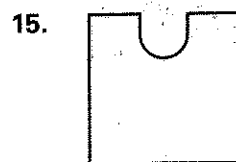
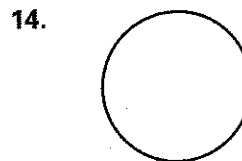
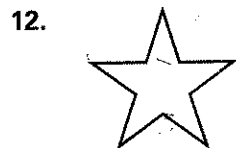


PRACTICE AND APPLICATIONS

STUDENT HELP

Extra Practice to help you master skills is on p. 813.

RECOGNIZING POLYGONS Decide whether the figure is a polygon.



STUDENT HELP

HOMEWORK HELP

Example 1: Exs. 12–17, 48–51

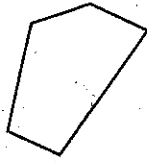
Example 2: Exs. 18–20, 48–51

Example 3: Exs. 24–30, 48–51

Example 4: Exs. 36–46

CONVEX OR CONCAVE Use the number of sides to tell what kind of polygon the shape is. Then state whether the polygon is *convex* or *concave*.

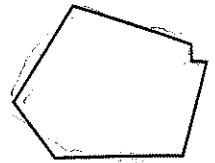
18.



19.



20.

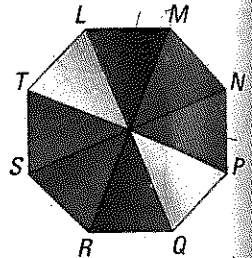


PARACHUTES Some gym classes use parachutes that look like the polygon at the right.

21. Is the polygon a *heptagon*, *octagon*, or *nonagon*?

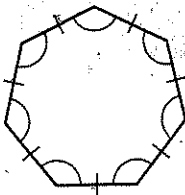
22. Polygon *LMNPQRST* is one name for the polygon. State two other names.

23. Name all of the diagonals that have vertex *M* as an endpoint. Not all of the diagonals are shown.

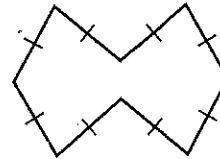


RECOGNIZING PROPERTIES State whether the polygon is best described as *equilateral*, *equiangular*, *regular*, or *none of these*.

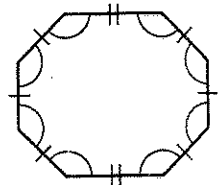
24.



25.



26.



TRAFFIC SIGNS Use the number of sides of the traffic sign to tell what kind of polygon it is. Is it *equilateral*, *equiangular*, *regular*, or *none of these*?

27.



28.



29.



30.



FOCUS ON APPLICATIONS



ROAD SIGNS

The shape of a sign tells what it is for. For example, triangular signs like the one above are used internationally as warning signs.

DRAWING Draw a figure that fits the description.

31. A convex heptagon

32. A concave nonagon

33. An equilateral hexagon that is not equiangular

34. An equiangular polygon that is not equilateral

35. **LOGICAL REASONING** Is every triangle convex? Explain your reasoning.

36. **LOGICAL REASONING** Quadrilateral *ABCD* is regular. What is the measure of $\angle ABC$? How do you know?