Name _____ Date _____

LESSON 8.1

Practice

For use with pages 506–513

Find the sum of the measures of the interior angles of the indicated convex polygon.

1. Hexagon

2. Dodecagon

3. 11-gon

4. 15-gon

5. 20-gon

6. 40-gon

The sum of the measures of the interior angles of a convex polygon is given. Classify the polygon by the number of sides.

7. 180°

8. 540°

9. 900°

10. 1800°

11. 2520°

12. 3960°

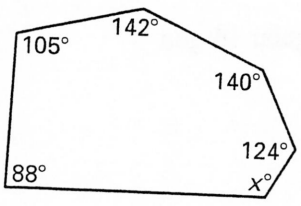
13. 5040°

14. 5940°

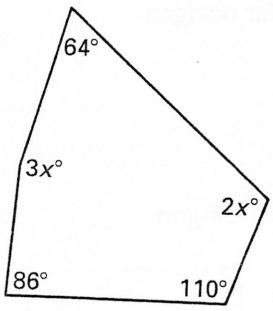
15. 8640°

Find the value of *x*.

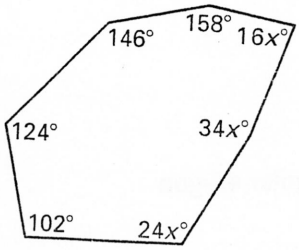
16.



17.



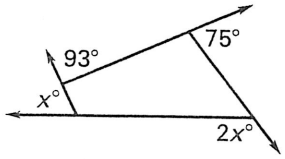
18.



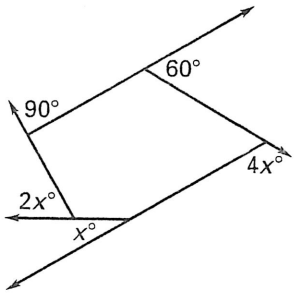
Name _____ Date _____

LESSON 8.1 **Practice** *continued*
For use with pages 506–513

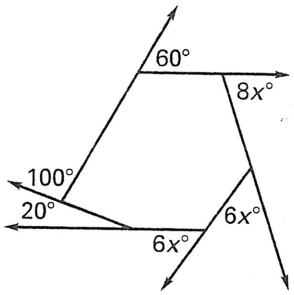
19.



20.



21.



22. What is the measure of each exterior angle of a regular nonagon?

23. The measures of the exterior angles of a convex quadrilateral are 90°, $10x°$, $5x°$, and 45°. What is the measure of the largest exterior angle?

24. The measures of the interior angles of a convex octagon are $45x°$, $40x°$, 155°, 120°, 155°, $38x°$, 158°, and $41x°$. What is the measure of the smallest interior angle?

Find the measures of an interior angle and an exterior angle of the indicated polygon.

25. Regular triangle

26. Regular octagon

27. Regular 16-gon

28. Regular 45-gon

29. Regular 60-gon

30. Regular 100-gon

Name _____ Date _____

LESSON 8.1 **Practice** *continued*
For use with pages 506–513

In Exercises 31–34, find the value of *n* for each regular *n*-gon described.

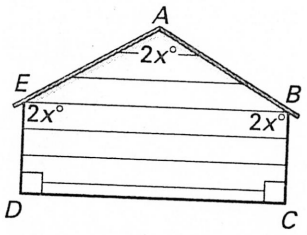
31. Each interior angle of the regular n-gon has a measure of 140°.

32. Each interior angle of the regular n-gon has a measure of 175.2°.

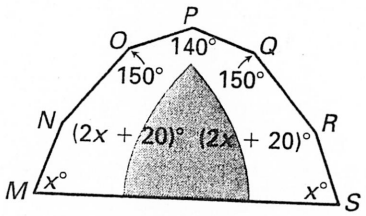
33. Each exterior angle of the regular n-gon has a measure of 45°.

34. Each exterior angle of the regular n-gon has a measure of 3°.

35. **Storage Shed** The side view of a storage shed is shown below. Find the value of x. Then determine the measure of each angle.



36. **Tents** The front view of a camping tent is shown below. Find the value of x. Then determine the measure of each angle.



37. **Proof** Because all the interior angle measures of a regular n-gon are congruent, you can find the measure of each individual interior angle. The measure of each interior angle of a regular n-gon is $\frac{(n-2) \cdot 180}{n}$. Write a paragraph proof to prove this statement.