HW # 58

LESSON 11.1

NAME _____ DATE _____

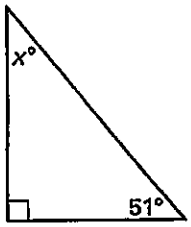
Practice B

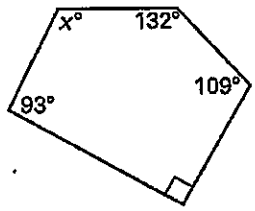
For use with pages 661–668

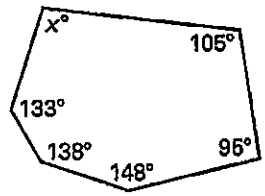
Find the sum of the measures of the interior angles of the convex polygon.

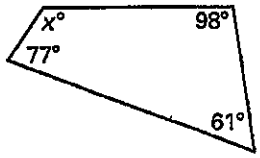
1. pentagon
2. nonagon
3. 13-gon
4. 18-gon

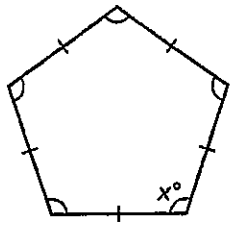
Find the value of *x*.

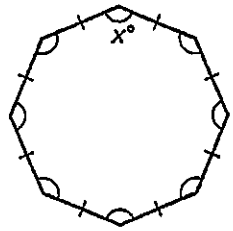
5. 

6. 

7. 

8. 

9. 

10. 

You are given the measure of each interior angle of a regular *n*-gon. Find the value of *n*.

11. 108°
12. $128\frac{4}{7}°$
13. 150°
14. 162°

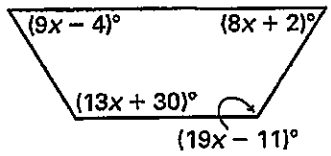
Find the sum of the measures of the exterior angles of the convex polygon.

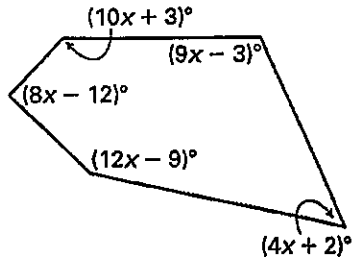
15. pentagon
16. nonagon
17. 15-gon
18. 20-gon

You are given the measure of each exterior angle of a regular *n*-gon. Find the value of *n*.

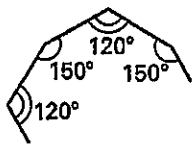
19. 72°
20. 45°
21. 20°
22. 15°

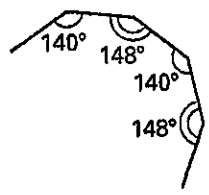
Find the value of *x*.

23. 

24. 

You are shown part of a convex *n*-gon. The pattern of the congruent angles continues around the polygon. Find *n*.

25. 

26. 

LESSON 11.1

NAME _____ DATE _____

Practice C

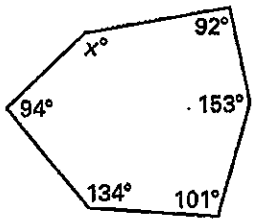
For use with pages 661–668

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

1. heptagon
2. decagon
3. 16-gon
4. 24-gon

Find the value of *x*.

5.



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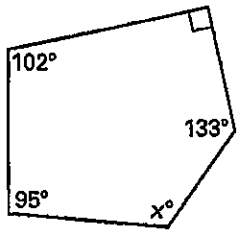

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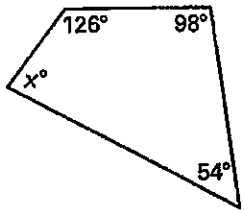


You are given the measure of each interior angle of a regular *n*-gon. Find the value of *n*.

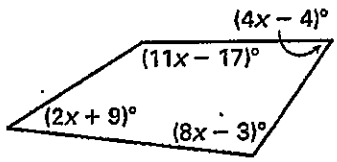
8. 135°
9. 156°
10. 162°
11. $172\frac{4}{5}°$

You are given the measure of each exterior angle of a regular *n*-gon. Find the value of *n*.

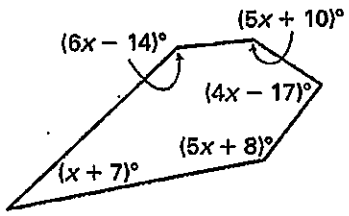
12. 40°
13. 36°
14. $7\frac{1}{2}°$
15. 2°

Find the value of *x*.

16.



17.



Would it be possible for a regular polygon to have interior angles with the angle measure described? Explain.

18. 155°
19. 160°
20. 165°
21. 168°

Tell whether each statement is *always, sometimes,* or *never* true.

22. As the number of sides of a polygon increases, the sum of the interior angles increases.
23. As the number of sides of a polygon increases, the sum of the exterior angles decreases.
24. A regular polygon is equilateral.
25. An equilateral polygon is regular.
26. If the number of sides of an equiangular polygon is doubled, the measure of each exterior angle is halved.
27. The measure of an exterior angle of a decagon is greater than the measure of an exterior angle of a pentagon.