6-1 Practice
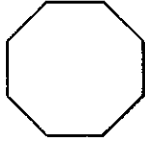
Form G

The Polygon Angle-Sum Theorems
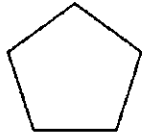
Find the sum of the angle measures of each polygon.
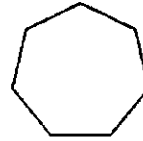
1.

2.

3.

4. 12-gon

5. 18-gon

6. 25-gon

7. 60-gon

8. 102-gon
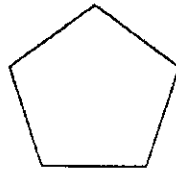
9. 17-gon

10. 36-gon

11. 90-gon

12. 11-gon

Find the measure of one angle in each regular polygon. Round to the nearest tenth if necessary.
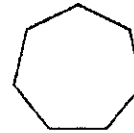
13.

14.

15.

16. regular 15-gon

17. regular 11-gon

18. regular 13-gon

19. regular 24-gon
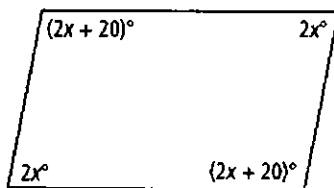
20. regular 360-gon

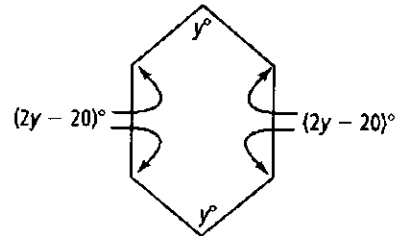21. regular 18-gon

22. regular 36-gon

23. regular 72-gon

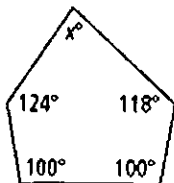24. regular 144-gon

Algebra Find the missing angle measures.

25.

$(2x + 20)°$ $2x°$

$2x°$ $(2x + 20)°$

26.

$y°$

$(2y - 20)°$ $(2y - 20)°$

$y°$

27.

$x°$

$124°$ $118°$

$100°$ $100°$

28.

$x°$

$(x + 50)°$ $x°$

$x°$ $(x + 50)°$

29.

$(5x + 5)°$

$(4x - 10)°$ $(4x - 10)°$

$(4x + 15)°$ $(4x + 15)°$
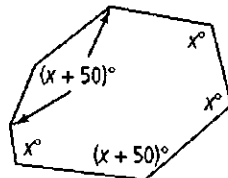
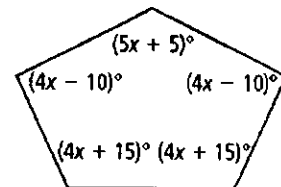## 6-1 Practice (continued) Form G
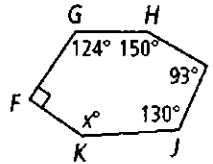
The Polygon Angle-Sum Theorems

7 points

Algebra Find the missing angle measures.

30.
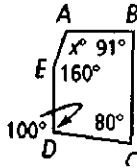
31.
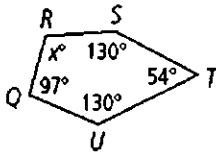

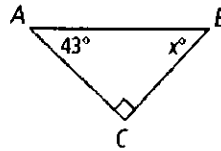**32.**
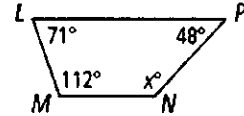
33.
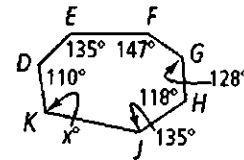

34.

35.

Find the measure of an exterior angle of each regular polygon. Round to the nearest tenth if necessary.

36. decagon   **37.** 16-gon   **38.** hexagon

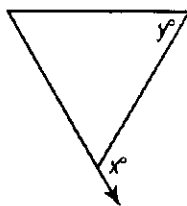**39.** 20-gon   **40.** 72-gon   **41.** square

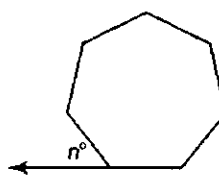**42.** 15-gon   **43.** 25-gon   **44.** 80-gon

Find the values of the variables for each regular polygon. Round to the nearest tenth if necessary.

45.

46.

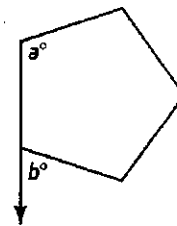**47.**

48. Reasoning Can a quadrilateral have no obtuse angles? Explain.

The measure of an exterior angle of a regular polygon is given. Find the measure of an interior angle. Then find the number of sides.

49. 12   **50.** 6   **51.** 45

52. 40   **53.** 24   **54.** 18

55. 9   **56.** 14.4   **57.** 7.2