Name _____   Date _____ Period _____
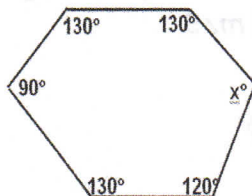
INTERIOR AND EXTERIOR ANGLES OF POLYGONS

1. Find the sum of the interior angles of a 20-gon.

2. Find the measure of each of the interior angles of a regular, convex 20-gon.
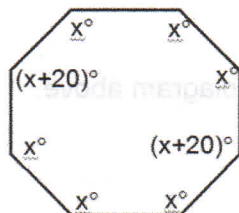
3. If the measure of an interior angle of a regular polygon is 108°, find the number of sides of the polygon.

4. If the measure of an interior angle of a regular polygon is 150°, find the number of sides in the polygon.

5. Find the missing angle by: 1) finding the sum of the interior angles, 2) finding the sum of the angles given, and 3) subtracting the sum of the angles given from the sum of the interior angles.
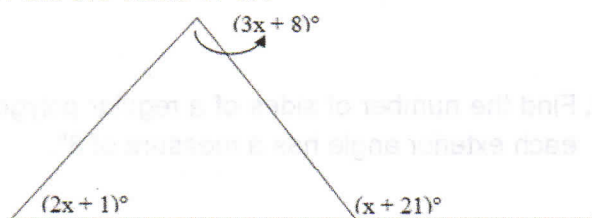

6. Find the measure of each angle.

7. Find the sum of the exterior angles of an undecagon.

8. Find the measure of each exterior angle of a regular, convex undecagon.

9. The measure of an exterior angle of a regular polygon is 30°. Find the number of sides.

10. The measure of an interior angle of a regular polygon is 144°. Find the number of sides.

11. Find the value of "x".

12. Find the sum of the measures of the interior angles of a heptagon.

13. Find the sum of the measures of the exterior angles of a heptagon.

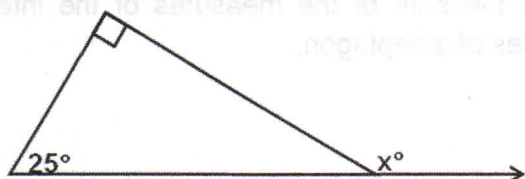14. Find the sum of the measures of the interior angles of a regular, 13-sided polygon.

15. Find the measure of each interior angle of a regular, 13-sided polygon.

16. Find the sum of the measures of the exterior angles of a regular, 13-sided polygon.
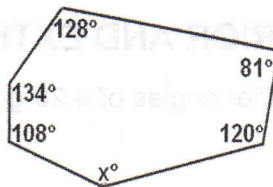
17. Find the measure of each exterior angle of a regular, 13-sided polygon.

18. Find the number of sides of a regular polygon if each exterior angle has a measure of 8°.
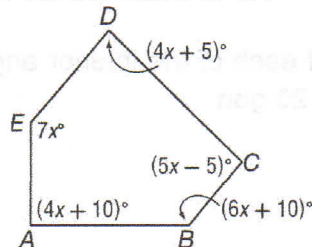
19. Find the value of "x".

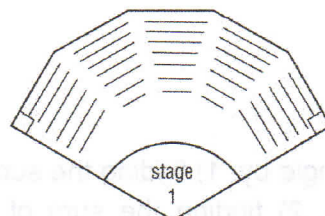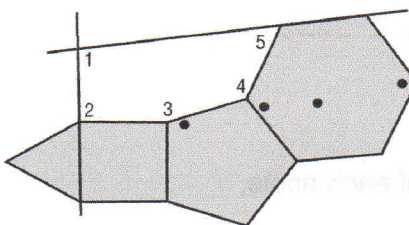20. Find the value of "x".

21. Find the value of "x".

22. Crystals are classified according to seven crystal systems. The basis of the classification is the shapes of the faces of the crystal. Turquoise belongs to the triclinic system. Each of the six faces of turquoise is in the shape of a parallelogram. Find the sum of the measures of the interior angles of one such face.

23. A theater floor plan is shown in the figure. The upper five sides are part of a regular dodecagon. Find $m\angle 1$.

24. In Mrs. Strickland's math class, students made a "polygon path" that consists of regular polygons of 3, 4, 5, and 6 sides joined together as shown. Find $m\angle 2$ and $m\angle 5$.

25. Find $m\angle 3$ and $m\angle 4$ in the diagram above.