More Angles of Polygons

Name _____

Worksheet

I. Fill in the blank with the correct term or phase.

1. An angle which forms a linear pair with an interior angle of a polygon is called an _____ angle.

2. A polygon which is both equilateral and equiangular is a _____ polygon.

3. A segment that joins two non-consecutive vertices of a polygon is a _____.

4. The measure of an exterior angle of a triangle is equal to the sum of the measures of its _____.

5. Each angle of an equiangular triangle has a measure of _____.

6. An interior angle of any polygon and its adjacent exterior angle are always _____.

7. An exterior angle of a polygon is (always, sometimes, never) smaller than its adjacent interior angle.

II. Solve the following problems. Must show all work!

_____ 8. Find the sum of the exterior angles of a convex heptagon.

_____ 9. Find the sum of the interior angles of nonagon.

_____ 10. The measure of each exterior angle of an regular polygon is 45°. Name the polygon.

_____ 11. One interior angle of a regular polygon is 162°. Find the number of sides.

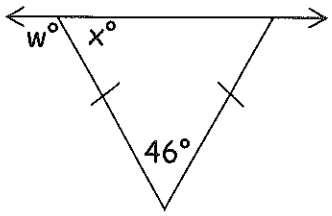
_____ 12. The sum of the interior angles of a polygon equals 3240°. Find the number of sides.

_____ 13. Find the measure of one interior angle of a regular dodecagon.

_____ 14. The measure of each interior angle of a regular polygon is eleven times that of an exterior angle. How many sides are in the polygon?

III. Find the value of each variable in the following problems.

15.



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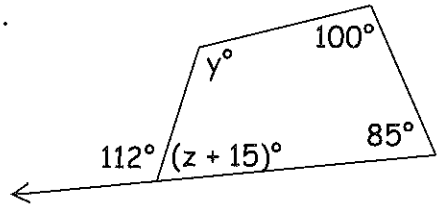

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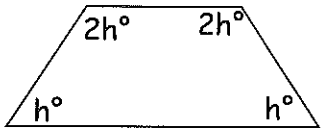

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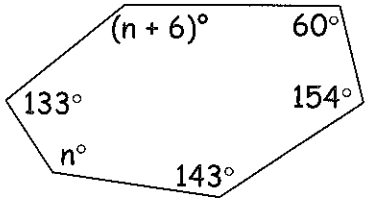

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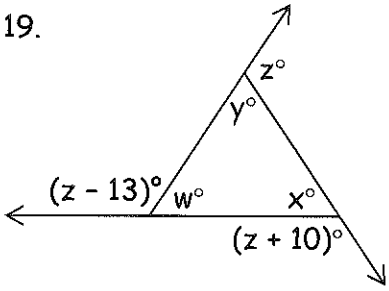

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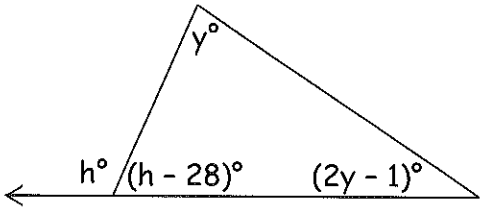

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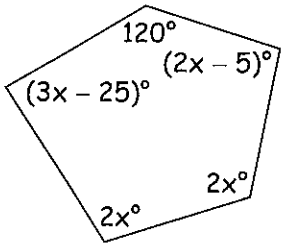

22. Given that ABCDEFGH is a regular octagon and CDJK is a square.