

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

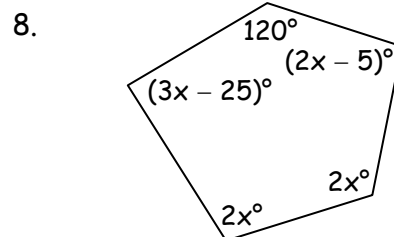
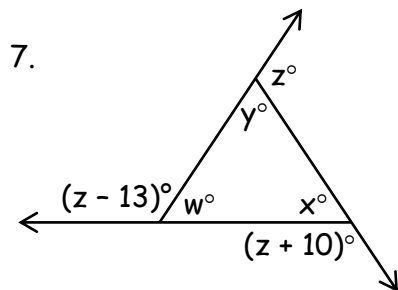
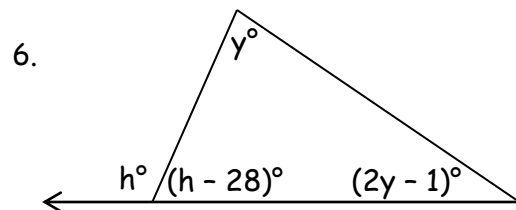
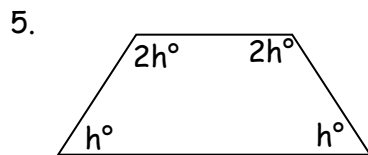
\_\_\_\_\_ 1. Find the sum of the exterior angles of a convex heptagon.

\_\_\_\_\_ 2. The measure of each exterior angle of a regular polygon is  $45^\circ$ . Name the polygon.

\_\_\_\_\_ 3. One interior angle of a regular polygon is  $162^\circ$ . Find the number of sides.

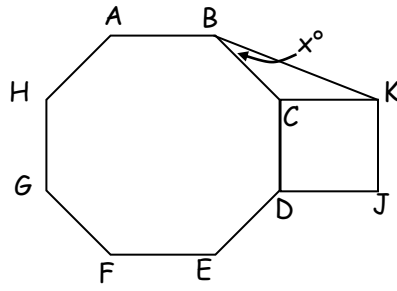
\_\_\_\_\_ 4. The measure of each interior angle of a regular polygon is eleven times that of an exterior angle. How many sides are in the polygon?

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



9. Given that  $ABCDEFGH$  is a regular octagon and  $CDJK$  is a square.

( $x^\circ$  is measure of  $\angle CBK$ )



10. Find the measure of each exterior angle of a convex pentagon if the measure of the interior angles are  $x - 10$ ,  $2x - 5$ ,  $2x + 15$ ,  $x$ , and  $x - 20$ .

11. The ratio of the interior angles of a hexagon are  $5:2:3:4:5:6$ . Find the measure of the largest angle of the hexagon.

12. The sum of the measures of the interior angles of a polygon is five times the sum of its exterior angles, one angle at each vertex. How many sides does the polygon have?