

## Missing Angles of Polygons

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1. Given quadrilateral ABCD where  $m\angle A = 60^\circ$ ,  $m\angle B = 100^\circ$ , and  $m\angle C = 110^\circ$ , find the measurement of  $\angle D$ .
2. Find the measure of each interior angle of a regular octagon.
3. Find the measure of an exterior angle of a regular dodecagon.
4. A pentagon has three  $80^\circ$  angles. The other two angles are congruent to each other. How much does each measure?
5. An exterior angle of a regular polygon is  $60^\circ$ . Name the polygon.
6. A heptagon has six angles that measure  $88^\circ, 142^\circ, 105^\circ, 136^\circ, 139^\circ,$  and  $151^\circ$ . Find the  $m\angle 7$ .
7. A pentagon has exterior angles that are  $x^\circ, 2x^\circ, 2x^\circ, 3x^\circ,$  and  $4x^\circ$ . Find the value of  $x$ .
8. In a regular  $n$ -gon, the measure of each interior angle is  $144^\circ$ . Find the value of  $n$ .
9. The sum of the central angles in any polygon is \_\_\_\_.
10. If the sum of the measure of the interior angles is  $180^\circ$ , then the polygon is a \_\_\_\_.
  - A. triangle
  - B. quadrilateral
  - C. pentagon
  - D. hexagon
  - E. octagon
11. If the number of sides in a polygon increases by 1 then the sum of the measures of the interior angles increases by \_\_\_\_ degrees.

A. 1	B. 90	C. 120
D. 180	E. 360	
12. Find the sum of the measures of the interior angles of a convex 52-gon.