

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° 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° . Name the polygon.

6. A heptagon has six angles that measure 88° , 142° , 105° , 136° , 139° , and 151° . Find the $m\angle 7$.

7. A pentagon has exterior angles that are x° , $2x^\circ$, $2x^\circ$, $3x^\circ$, and $4x^\circ$. Find the value of x .

8. In a regular n -gon, the measure of each interior angle is 144° . 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° , 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.