



CREST Mathematics Olympiad (CMO) Worksheet *for* Class 7



Topic

Practical Geometry



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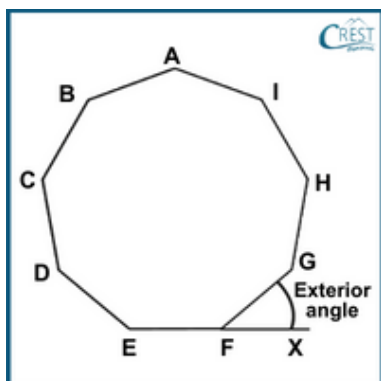
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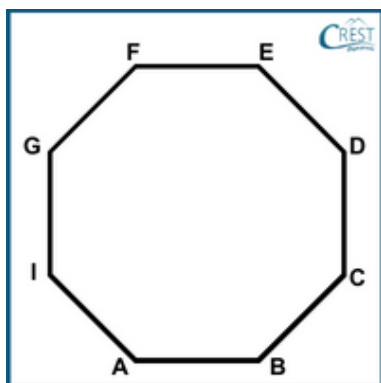
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Worksheet on Practical Geometry

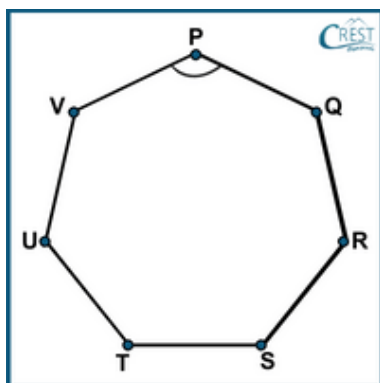
1. What is the value of an exterior angle $\angle GFX$ of the given figure?



- a. 30°
 - b. 40°
 - c. 50°
 - d. 40°
2. What is the sum of the interior angles of the given figure?

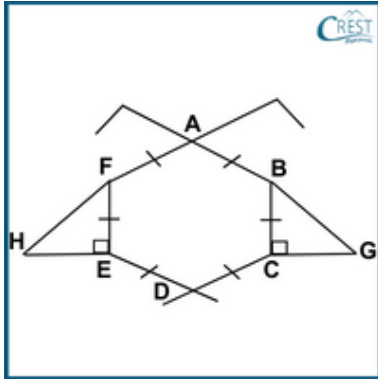


- a. 950°
 - b. 980°
 - c. 1050°
 - d. 1080°
3. What is the value of each interior angle of the given figure?



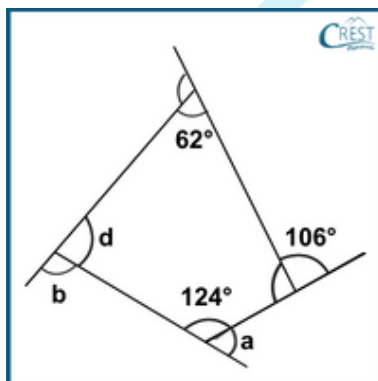
- a. 118.57°
- b. 126.57°
- c. 128.57°
- d. 136.57°

4. How many diagonals are present in the polygon ABCDEF?



- a. 3
- b. 6
- c. 9
- d. 12

5. What is the sum of angles a, b, c and d?



- a. 344°
- b. 354°
- c. 364°
- d. 374°

Answer Key

1. b - 40°

Explanation: The figure is a regular nonagon.

Number of sides (n) = 9

Measure of each exterior angle in a regular polygon of n sides = $360^\circ/n$

Measure of each exterior angle in a regular nonagon = $360^\circ/9$
= 40°

2. d - 1080°

Explanation: The figure is a regular octagon.

Number of sides (n) = 8

Sum of interior angles in a regular polygon of n sides = $(n - 2) \times 180^\circ$

Sum of interior angles in a regular octagon = $(8 - 2) \times 180^\circ$
= $6 \times 180^\circ$
= 1080°

3. c - 128.57°

Explanation: The figure is a regular heptagon.

Number of sides (n) = 7

Each interior angle in a regular polygon of n sides = $(n - 2) \times 180^\circ/n$

Each interior angle in a regular heptagon = $(7 - 2) \times (180^\circ/7)$
= $5 \times (180^\circ/7)$
= $900^\circ/7$
= 128.57°

4. c - 9

Explanation: The polygon ABCDEF is a regular hexagon.

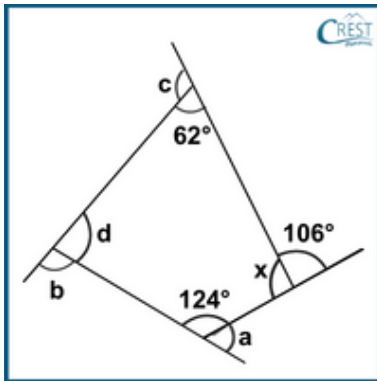
Number of sides (n) = 6

Number of diagonals in a regular polygon of n sides = $n(n - 3)/2$

Number of diagonals in a regular hexagon = $6(6 - 3)/2$
= $6 \times (3/2)$
= $18/2$
= 9

5. b - 354°

Explanation: Using the figure,



Sum of exterior angles in a polygon (Quadrilateral) = 360°

$$a + b + c + 106^\circ = 360^\circ$$

$$a + b + c = 360^\circ - 106^\circ$$

$$a + b + c = 254^\circ$$

Interior angle + exterior angle = 180°

$$x + 106^\circ = 180^\circ$$

$$x = 180^\circ - 106^\circ$$

$$x = 74^\circ$$

Sum of all the angles within a quadrilateral = 360°

$$d + 62^\circ + x + 124^\circ = 360^\circ$$

$$d + 62^\circ + 74^\circ + 124^\circ = 360^\circ$$

$$d + 260^\circ = 360^\circ$$

$$d = 360^\circ - 260^\circ$$

$$d = 100^\circ$$

Sum of angles a, b, c and d = $a + b + c + d$

$$= 254^\circ + 100^\circ$$

$$= 354^\circ$$

More Questions Coming Soon – Keep Learning!

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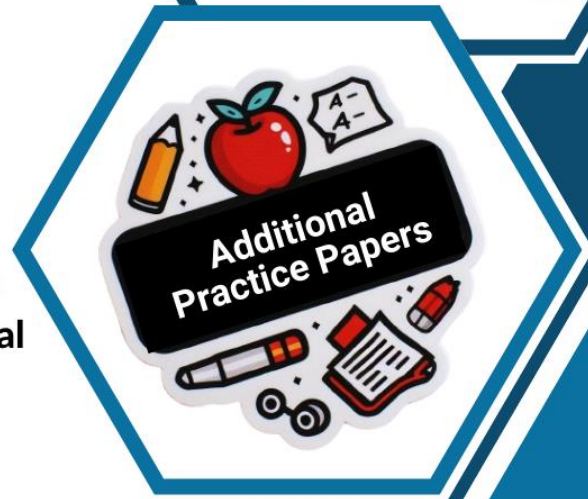
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