Interior and Exterior Angles of a Quadrilateral

A. Choose the Correct Answer:

1. The sum of the exterior angles of any quadrilateral, taken one at each vertex, is:
a) 360°
b) 180°
c) 270°
d) 90°

2. If one exterior angle of a quadrilateral is 110°, what is its adjacent interior angle?
a) 70°
b) 110°
c) 180°
d) 90°

3. In a quadrilateral, if two interior angles are 100° and 85°, and one exterior angle is 70°, find the missing interior angle. Which of the following is correct?
a) 105°
b) 75°
c) 90°
d) 85°

B. Write the Missing Terms to Complete the Sentences:

1. The sum of all interior angles of a quadrilateral is _____ degrees.

2. An exterior angle and its adjacent interior angle form a _____ angle.

3. The sum of all exterior angles of any polygon is always _____ degrees.

4. If an interior angle is 135°, then its exterior angle is _____.

5. The measure of an exterior angle helps us find the measure of its _____ angle.

C. Figure out the answers to these questions:

1. Find the missing interior and exterior angles in a quadrilateral where three interior angles are 85°, 95°, and 90°.

2. Draw any quadrilateral, measure each interior angle, and then calculate its corresponding exterior angle.
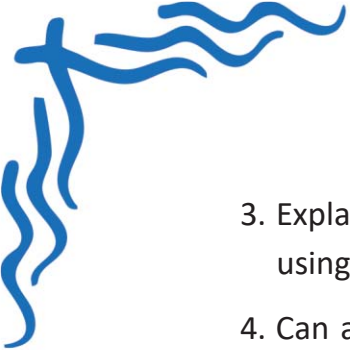
3. Explain why the sum of the exterior angles of any quadrilateral is always 360°, using a simple diagram.

4. Can all four exterior angles of a quadrilateral be equal? If yes, what will each measure? Justify.

5. The exterior angles of a quadrilateral are in the ratio 2:3:4:5. Find each angle.

D. Mark each sentence with a True (✔) or False (✗):

1. The sum of the interior and exterior angle at any vertex is always 180°.

2. The sum of interior angles of a quadrilateral can be more than 360°.

3. All exterior angles in a quadrilateral must be equal.

4. If one exterior angle is 90°, the adjacent interior angle is 90°.

5. The exterior angle of a quadrilateral cannot be more than 180°.

E. Challenge yourself with these questions:

1. Observe the shape of a table top. Estimate and measure its interior and exterior angles at the corners.

2. Design a quadrilateral where two interior angles are right angles and the other two are obtuse. Find the exterior angles.

3. A quadrilateral has exterior angles 70°, 85°, 95°, and x°. Find the value of x.

4. List two differences between interior and exterior angles using your own words and examples.

5. Imagine a robot moving along the sides of a quadrilateral. At each vertex, it turns based on the exterior angle. Describe the total angle the robot turns during one complete round.