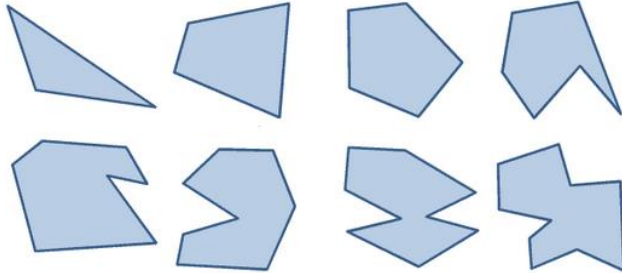


TYPE/TOPIC OF QUESTIONS: TYPES AND ANGLE-SUM PROPERTIES OF POLYGONS

1. Mention whether the polygons below are convex or concave.



2. Find the sum of all the interior angle of a polygon having 29 sides.
3. If the sum of the measure of the interior angle of polygon is 3240, find the number of sides of the polygon.
4. Find the sum of interior angles of a decagon.
5. What is the sum of exterior angles of a decagon.
6. Sum of all interior angles of a polygon is 3060° . How many sides does the polygon have?
7. Find the number of sides in a regular polygon when the measure of each exterior angle is 45° .
8. The exteriors angles of a pentagon are $(m + 5)^\circ$, $(2m + 3)^\circ$, $(3m + 2)^\circ$, $(4m + 1)^\circ$ and $(5m + 4)^\circ$ respectively. Find the measure of each angle.
9. The measures of the exterior angles of a hexagon is $(3x - 4)^\circ$, $(x + 4)^\circ$, $(7x - 3)^\circ$, $(8x - 1)^\circ$, $(2x + 3)^\circ$, $(9x + 1)^\circ$. Find the measure of each angle.
10. Is it possible to have a regular polygon each of whose exterior angle is 50° ? Give reason to support your answer.
11. Find the number of sides of a regular polygon if each of its exterior angle is:
 - (a) 45°
 - (b) 60°
 - (c) 120°
 - (d) 40°

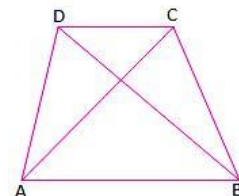
TYPE/TOPIC OF QUESTIONS: PROPERTIES OF QUADRILATERALS

1. *Fill in the blanks:*

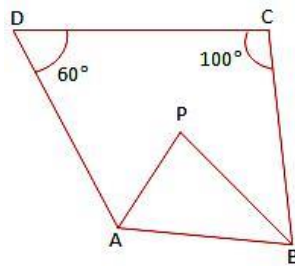
- (i) A quadrilateral has sides.
- (ii) A quadrilateral has angles.
- (iii) A quadrilateral has vertices, no three of which are.....
- (iv) A quadrilateral has diagonals.
- (v) A diagonal of a quadrilateral is a line segment that joins two vertices of the quadrilateral.
- (vi) The sum of the angles of a quadrilateral is

2. *In the adjoining figure, ABCD is a quadrilateral.*

- (i) How many pairs of adjacent sides are there? Name them.
- (ii) How many pairs of opposite sides are there? Name them.
- (iii) How many pairs of adjacent angles are there? Name them.
- (iv) How many pairs of opposite angles are there? Name them.
- (v) How many diagonals are there? Name them.



3. Prove that the sum of the angles of a quadrilateral is 360° .
4. The three angles of a quadrilateral are 76° , 54° and 108° . Find the measure fourth angle.
5. The angles of a quadrilateral are in the ratio $3 : 5 : 7 : 9$. Find the measure of each of these angles.
6. A quadrilateral has three acute angles, each measuring 75° . Find the measure of the fourth angle.
7. Three angles of a quadrilateral are equal and the measure of the fourth angle is 120° . Find the measure of each of the equal angles.
8. Two angles of a quadrilateral measure 85° and 75° respectively. The other two angles equal. Find the measure of each of these equal angles.
9. In the adjacent figure, the bisectors of $\angle A$ and $\angle B$ meet in a point P. If $\angle C = 100^\circ$ and $\angle D = 60^\circ$, find the measure of $\angle APB$.



10. ABCD is a parallelogram in which $\angle A = 110^\circ$. Find the measure of each of the angles $\angle B$, $\angle C$ and $\angle D$.
11. Two adjacent angles of a parallelogram are equal. What is the measure of each of these angles?
12. Two adjacent angles of a parallelogram are in the ratio $4 : 5$. Find the measure of each of its angles.
13. Two adjacent angles of a parallelogram are $(3x - 4)^\circ$ and $(3x + 16)^\circ$. Find the value of x and hence find the measure of each of its angles.
14. The sum of two opposite angles of a parallelogram is 130° . Find the measure of each of its angles.
15. In the given figure ABCD is a square. Find the measure of $\angle CAD$.

