Curves and Polygons

Polygons: Simple closed figures having three or more line segments are called polygons.

Polygons are further divided into various categories, depending upon the line segments they have.

(*i*)

(ii)

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See the following figures: All the figures (i), (ii) are polygons.

⇒ Sides, vertices and diagonals

- **Sides:** The line segment forming a polygon are called its sides. In the adjoining figure, the sides of the polygon ABCDE are AB, BC, CD, DE, EA. D
- Vertices: The meeting point of a pair of sides is called a vertex. A B In the above figure, sides AE and ED meet at E. So E is the vertex of the polygon ABCDE. A, B, C and D are its other vertices.
- Adjacent sides: Any two sides with the common end point are called the adjacent sides of the polygon. In the polygon ABCDE, (AB,BC), (BC, CD), (CD,DE), (DE,EA) and (EA, AB) are the adjacent sides.
- Adjacent vertices: The end points of the same side of a polygon are called adjacent vertices. In the polygon ABCDE, vertices E and D are adjacent, whereas A and D are not adjacent vertices. Other adjacent vertices in the figure are (A, B), (B, C), (C, D) and (E, A).
- Diagonals: The joints of the pairs of vertices which are not adjacent, are called diagonals of the polygon.
 In the polygon ABCDE, AC, AD, BD, BE and CE are diagonal.