

Shapes differ in mathematics based on their dimensions (2D vs. 3D), regularity (regular vs. irregular), and properties like the number of sides, vertices, and angles. Two-dimensional (2D) shapes are flat with length and width, while three-dimensional (3D) shapes have length, width, and height. Regular shapes have equal sides and angles, while irregular shapes do not.

2D vs. 3D

- **2D shapes:** These are flat shapes with two dimensions: length and breadth. ^{أبعاد}
- **Examples:** Circles, squares, and triangles. ^{العرض}
- **3D shapes:** These are solid shapes with three dimensions: length, breadth, and height.
- **Examples:** Cubes, spheres, and cones.

Regular vs. Irregular

- **Regular shapes:** These are symmetric shapes where all sides and interior angles are equal.
- **Examples:** A square, an equilateral triangle, or a regular hexagon.
- **Irregular shapes:** These shapes have sides and angles that are not all equal.
- **Examples:** A scalene triangle or a non-equilateral quadrilateral.

Properties and attributes

- **Sides and Vertices:** Shapes can be differentiated by the number of sides they have (e.g., a triangle has 3 sides, a quadrilateral has 4) and the number of vertices (corners) they possess.
- **Angles:** The size of the interior angles is another key property. A regular polygon will have all angles of the same measurement.
- **Symmetry:** Some shapes have lines of symmetry, which is a line that divides the shape into two identical halves. The number of lines of symmetry varies between shapes; a square has 4, while a rectangle has 2.