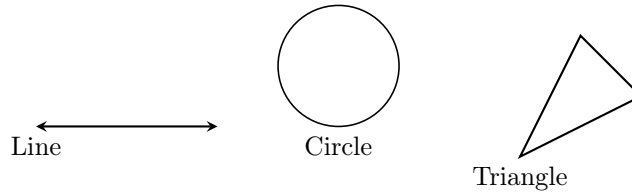


2D SHAPES

A PLANE GEOMETRY

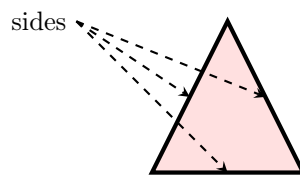
Definition Plane Geometry

Plane Geometry is the study of flat shapes that you see in pictures or on paper. These shapes include lines, circles, triangles, squares, and rectangles. They are called flat because they have only length and width.



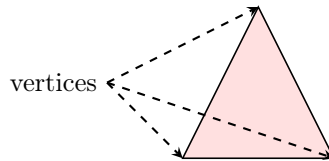
Definition Side

A **side** is a straight line on a shape.



Definition

A **vertex** is a point where two sides meet.



B POLYGONS

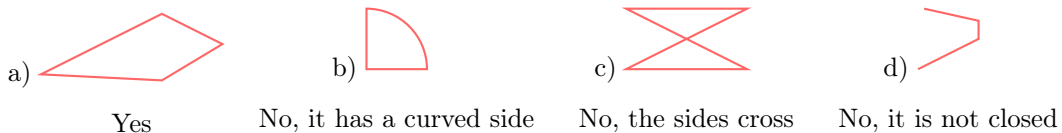
Definition Polygon

A **polygon** is a flat shape that is closed, has only straight sides, and has sides that do not cross each other.

Ex: Look at the shapes below. Decide if each one is a polygon.

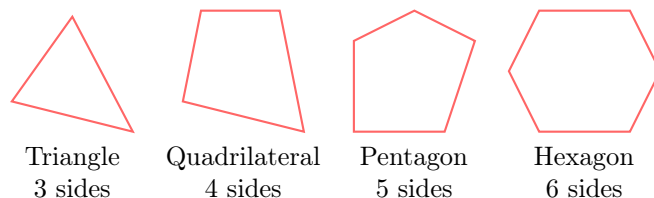


Answer:



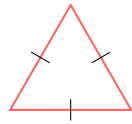
Definition Classification of Polygons

A **polygon** is named by the number of sides it has. Here are some common polygons:

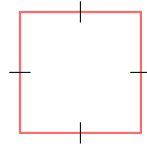


Definition Regular Polygon

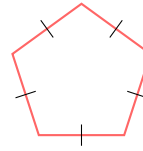
A **regular polygon** has all sides the same length.



Equilateral Triangle



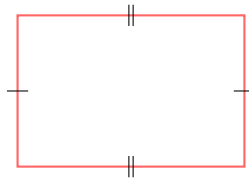
Square



Regular Pentagon

Definition Rectangle

A **rectangle** is a quadrilateral with the opposite sides are equal in length.



C CIRCLES

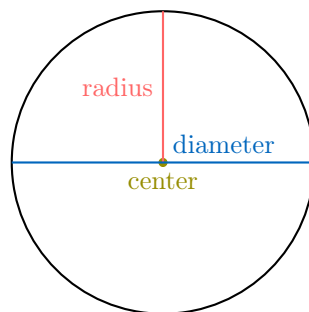
Definition Circle

A **circle** is every point on the edge as same distance from the **center**.

The **radius** is a line segment from the center to a point of the circle. The radius is also the length of this segment.

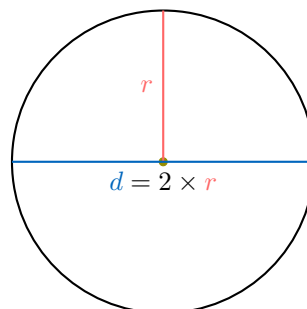
The **diameter** is a line segment that goes across the circle through the center, connecting two points on the circle.

The diameter is also the length of this segment.



Proposition Diameter-Radius Rule

- The diameter is twice the radius: $d = 2 \times r$.



- The radius is half the diameter: $r = d \div 2$

