

# Unit 2:

## Geometry

(Shapes / Area / Perimeter /  
Volume)

# Polygons

Polygons are flat (2D) closed figures made of line segments.

3 types:

① Triangles

③ (Other)

- shapes with more than 4 sides.

② Quadrilaterals

① Triangles: 3 sided polygons

Describe angles:



acute - all angles less than 90°



right - one angle less than 90°



obtuse - one angle greater than 90°

Describe sides:



isosceles - 2 sides are equal in length.



equilateral - all 3 sides are equal in length.



scalene - no sides are equal.

# Quadrilaterals (16)

② Quadrilaterals: 4 sided polygons



**Kite** - 2 pairs of equal adjacent sides.



**Trapezoid** - 1 set of parallel sides.



**Parallelogram** - 2 sets of parallel sides.



- **rectangle** - a parallelogram that has 4 right angles.

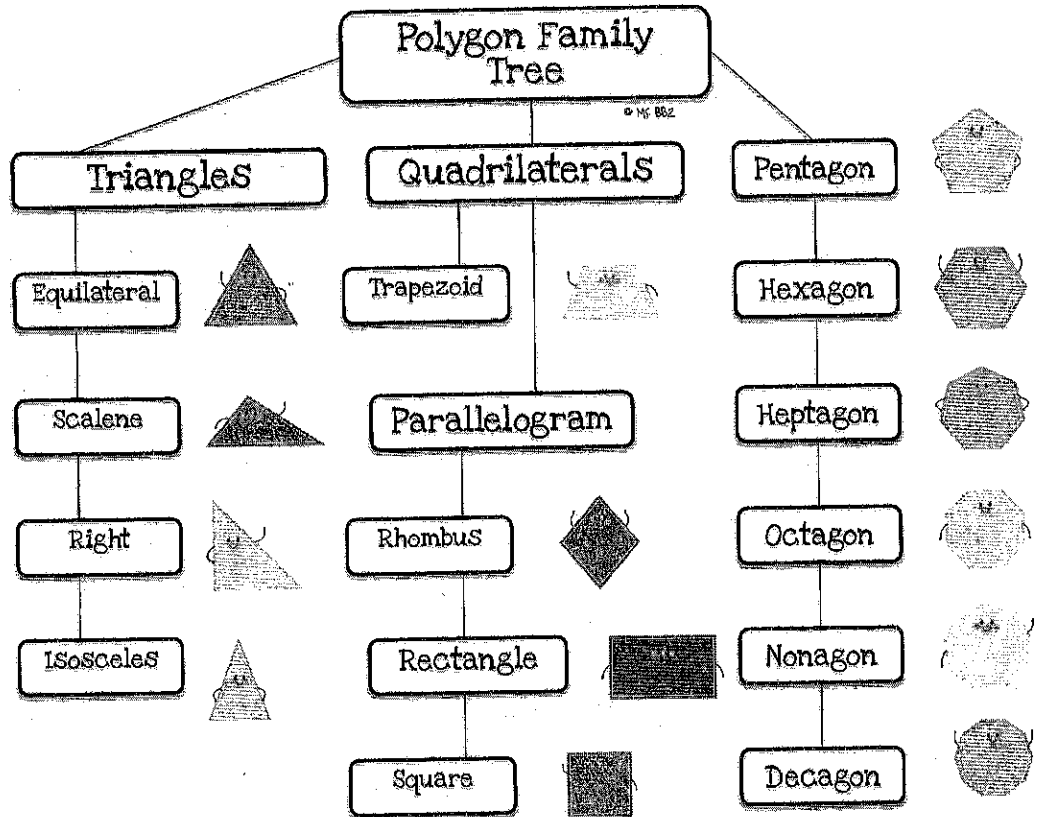


- **rhombus** - a parallelogram with 4 equal sides.



- **square** - a parallelogram with 4 right angles and 4 equal sides.  
\* squares are rectangles, rectangles are NOT squares.

# 2. Geometry



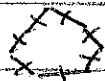
③ Shapes with more than 4 sides.



- Pentagon - 5 sides



- Hexagon - 6 sides



- Heptagon - 7 sides



- Octagon - 8 sides



- nonagon - 9 sides



- Decagon - 10 sides

# Area

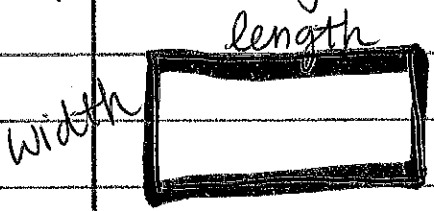
# Perimeter

The measurement of the **SPACE** (square units) inside an object.

\* Formula for quadrilaterals

$$A = l \times w$$

Area = length x width



**Examples:**

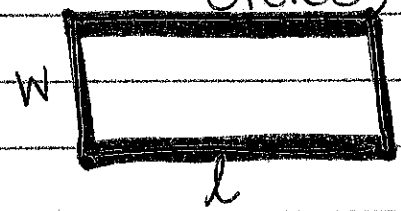
- carpet/tile a room
- grass in a yard.

The distance **AROUND** the **OUTSIDE** of an object.

\* Formula:

$$P = l + l + w + w$$

(add all the sides)



**Examples:**

- gates/fence around a yard.
- baseboards around a room.

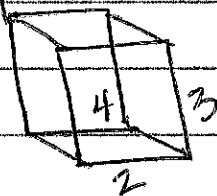
# Volume

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$l \times w \times h =$  formula  
for volume

length  $\times$  width  $\times$  height  $= V.$

Example



$$l = 3$$

$$h = 4$$

$$w = 2$$

$$3 \times 4 \times 2 = 24$$

$$= 24 \text{ units}^2$$