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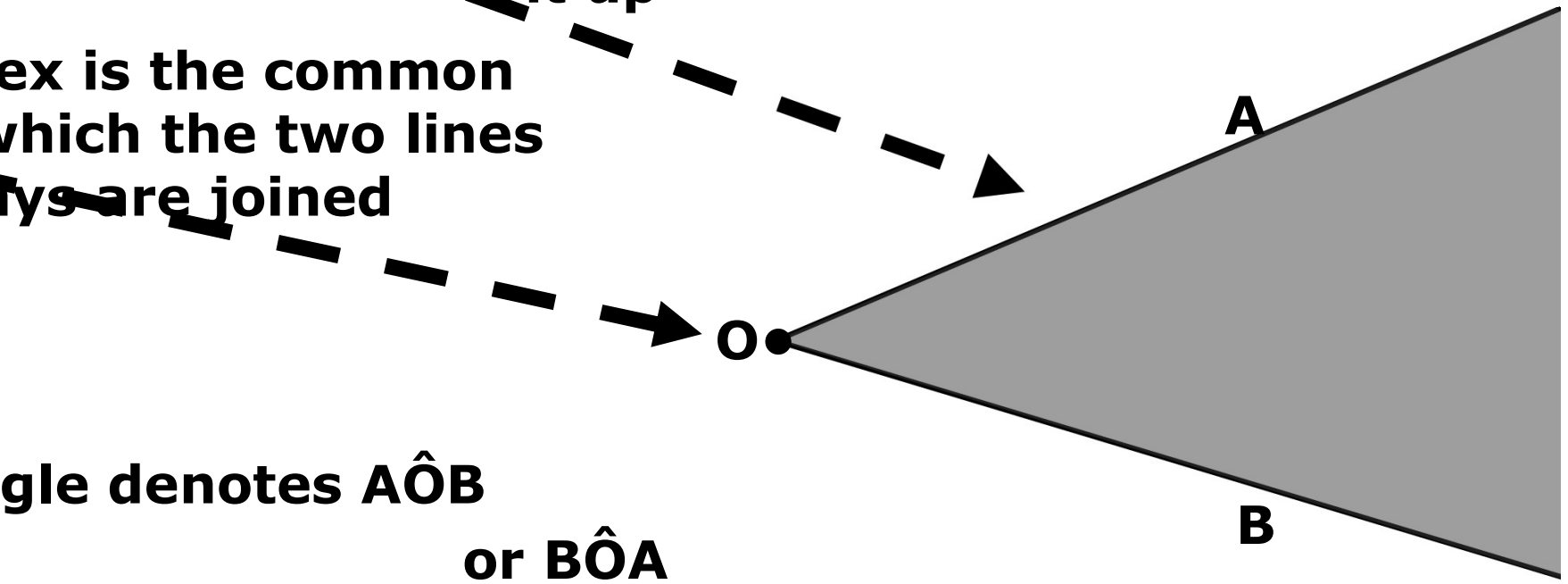
ANGLES

DEF.: **an angle is a shape, formed by two lines or rays diverging from a common point (the vertex).**

The legs (sides) of an angle are the two lines that make it up

The vertex is the common point at which the two lines or rays are joined

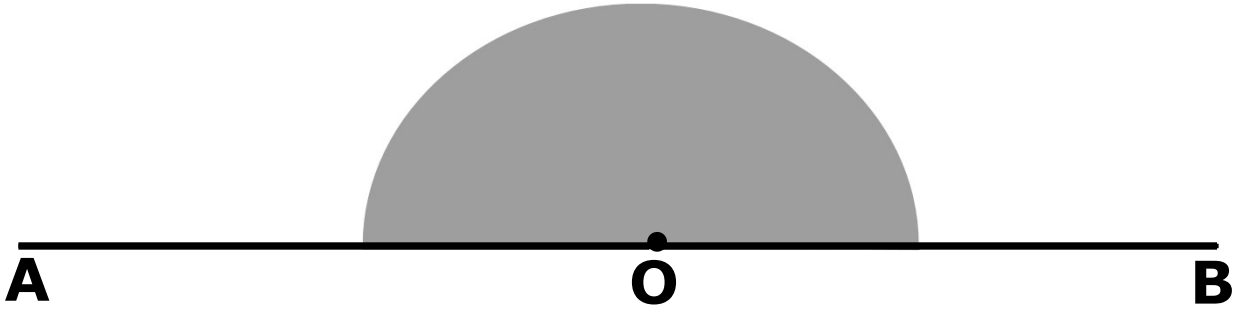


This angle denotes AÔB

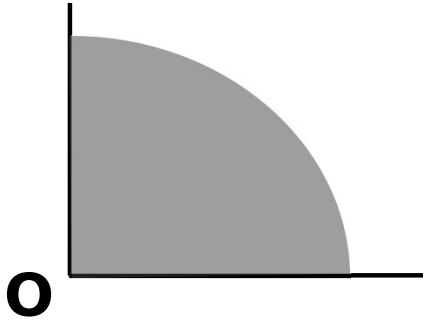
or BÔA

or Ô

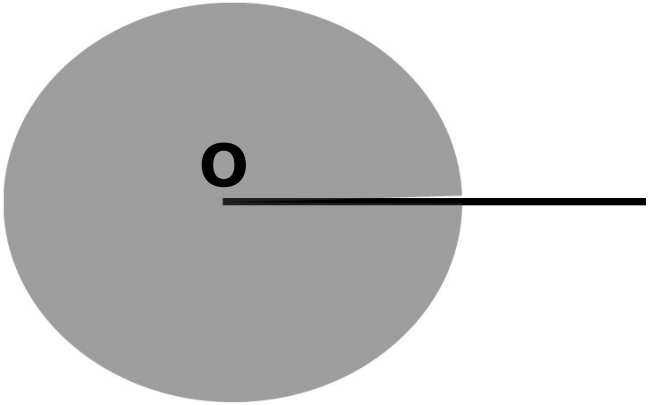
Straight angle (180° half turn) is formed when the legs are pointing in exactly opposite directions.



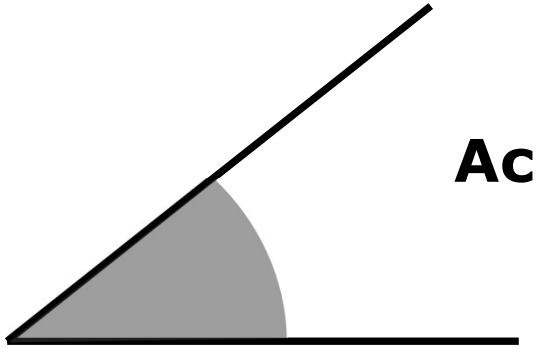
Right angle (90° a quarter of a turn) is exactly the half of the straight angle



Full angle (360° complete turn) is an angle formed by 2 coincident half lines



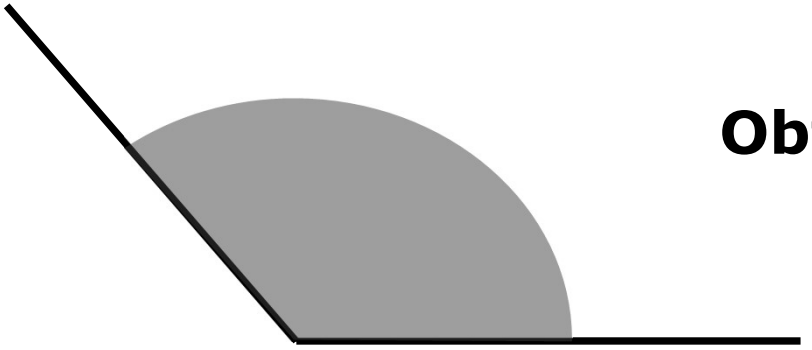
DEF.: **An acute angle is an angle whose measure is less than a right angle**



Acute angle

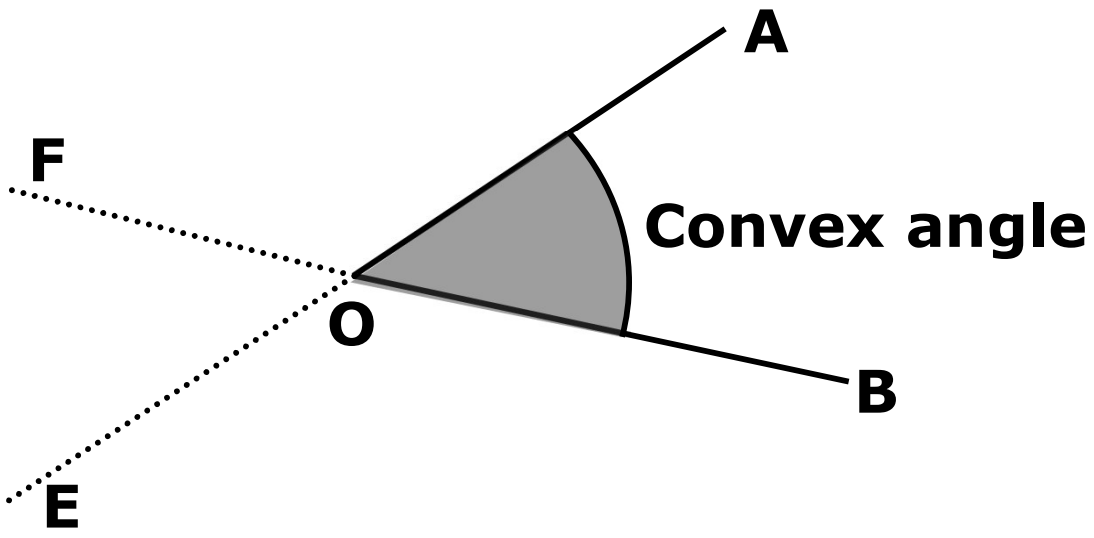
DEF.: **Un obtuse angle is an angle**

1. **greater than a right angle**
2. **less than a straight angle**

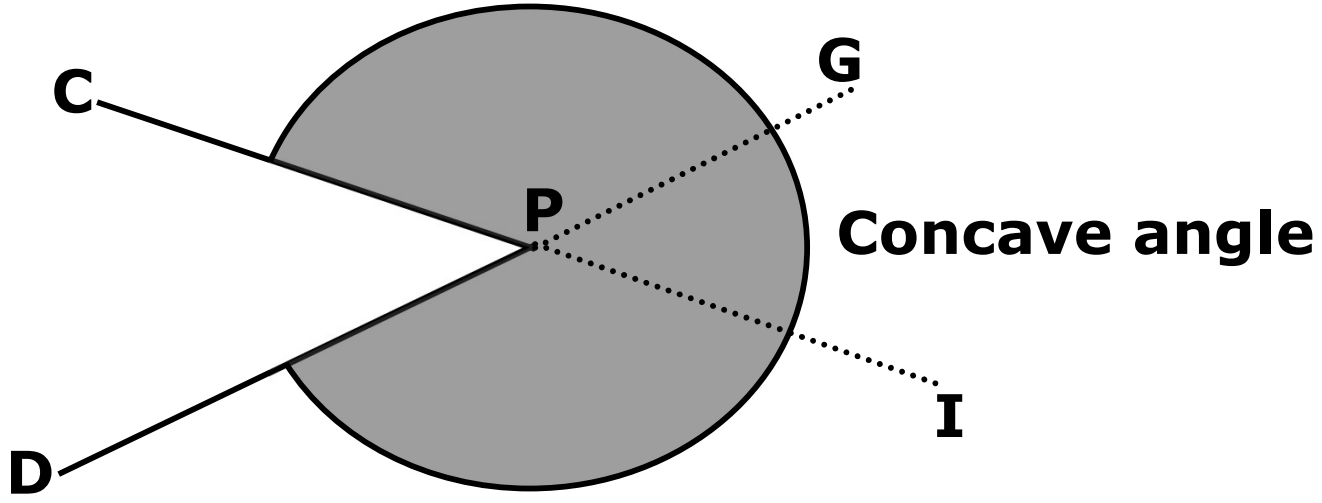


Obtuse angle

DEF.: **An angle is convex when the extention of its legs is outside the angle**



concave angle when the extension of its legs lies inside the angle



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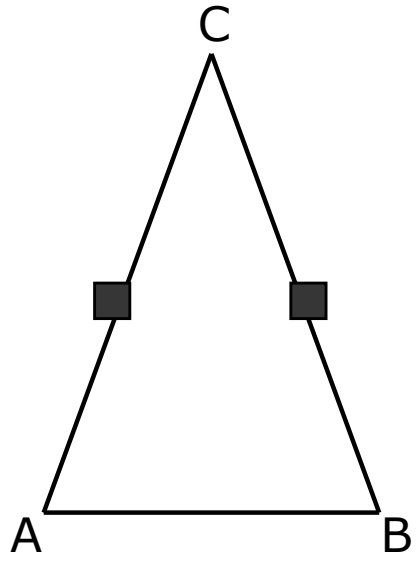
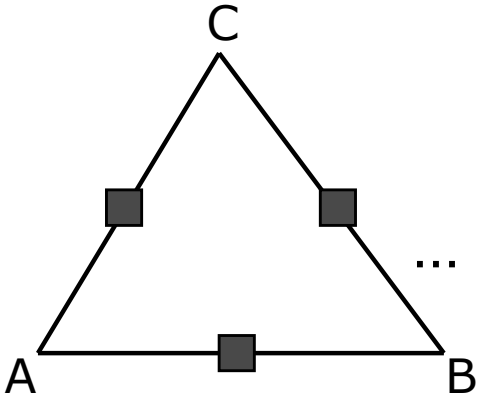
A TRIANGLE

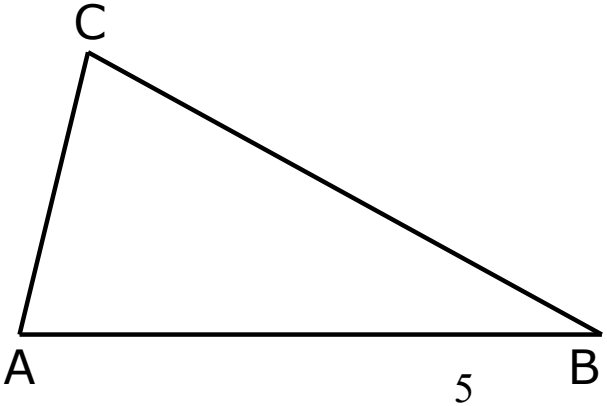
… with two of its sides equal in length is called **isosceles**



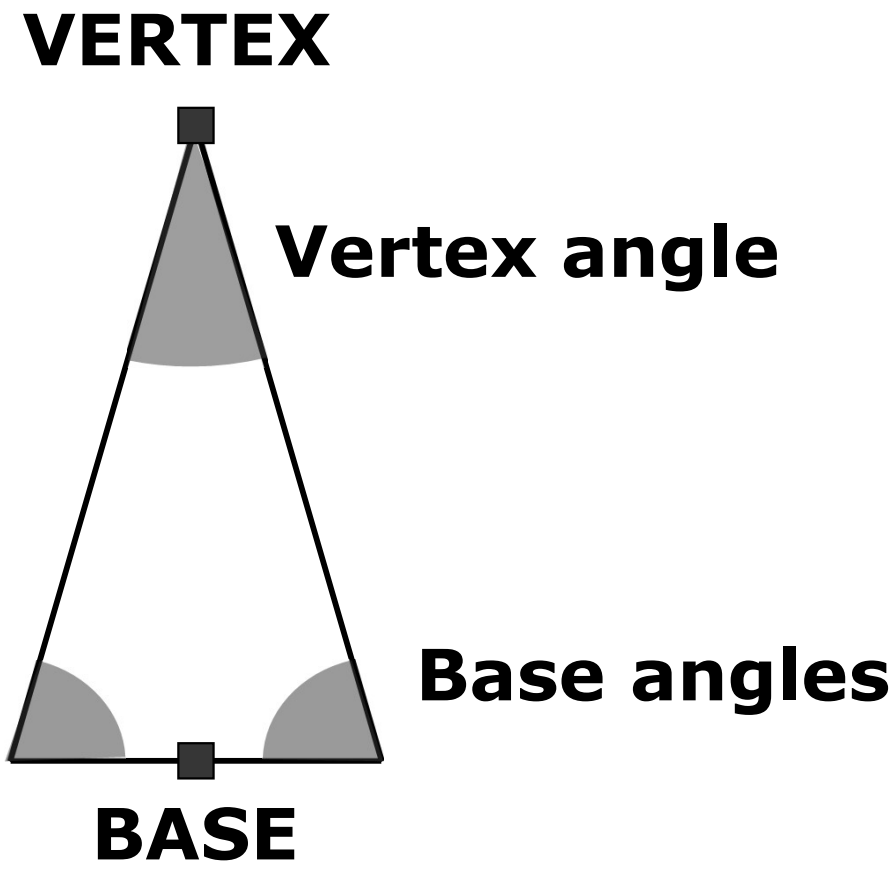


… with all three sides equal in lenght is called **equilateral**

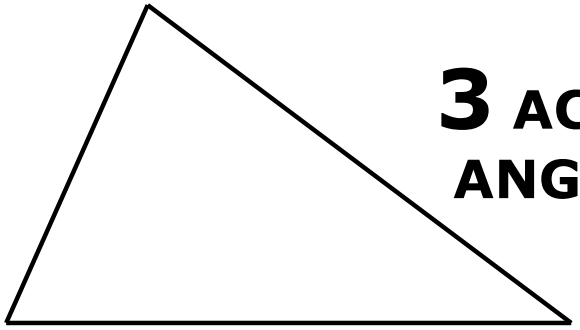
… with all three sides different in lenght is called **scalene**



In the **isosceles triangle**

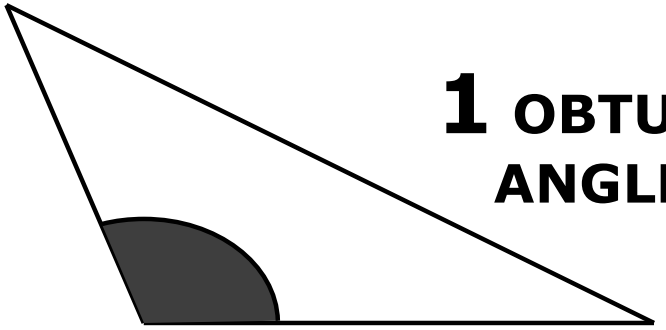


CLASSIFICATION by **ANGLES**



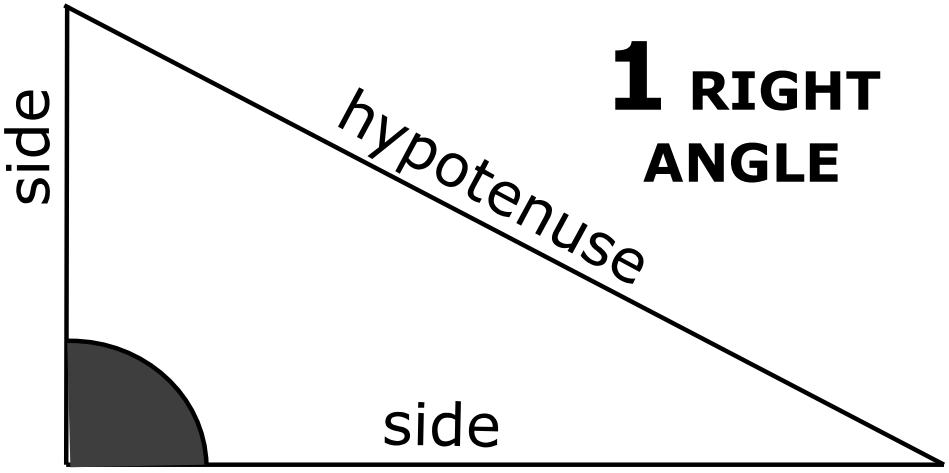
3 ACUTE ANGLES

ACUTE TRIANGLE



1 OBTUSE ANGLE

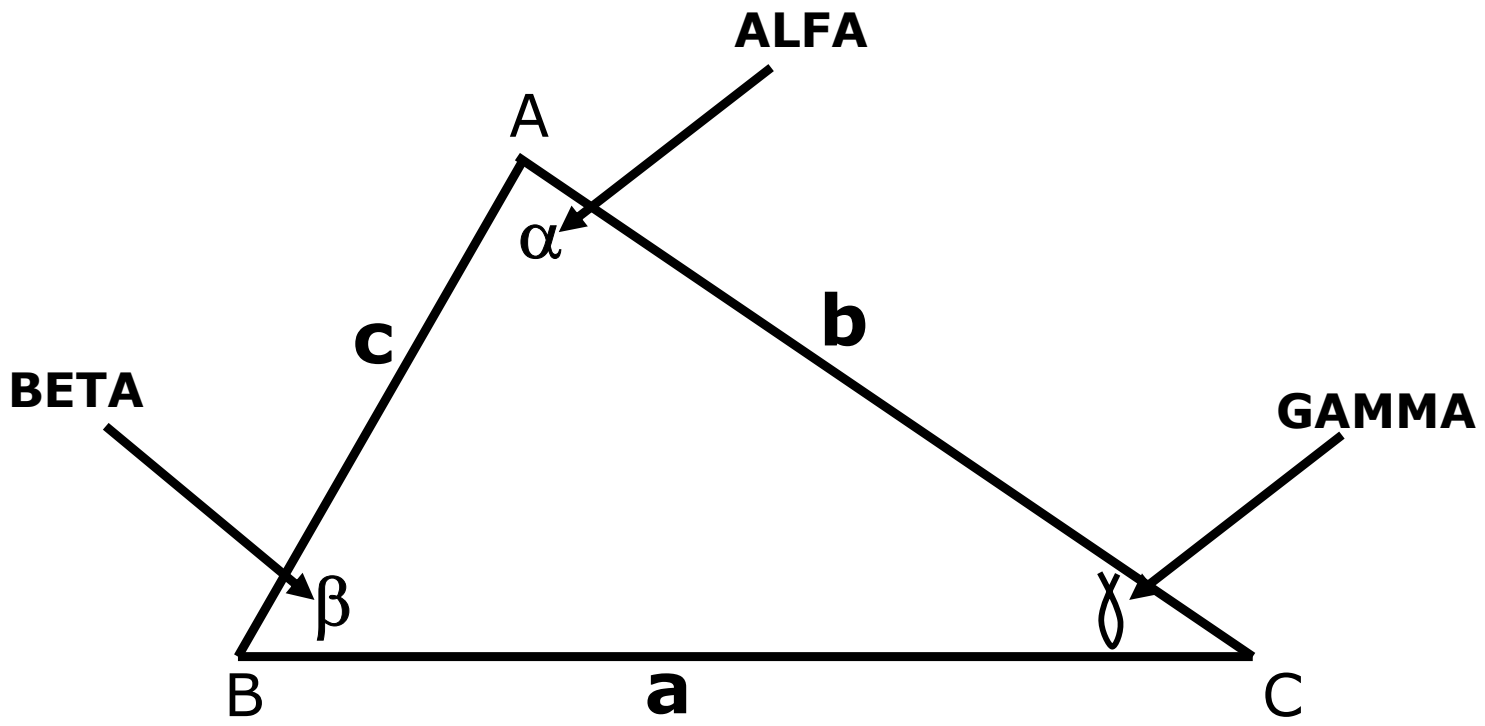
OBTUSE TRIANGLE



1 RIGHT ANGLE

RIGHT TRIANGLE

CONVENTION



δ ⟵ **DELTA**

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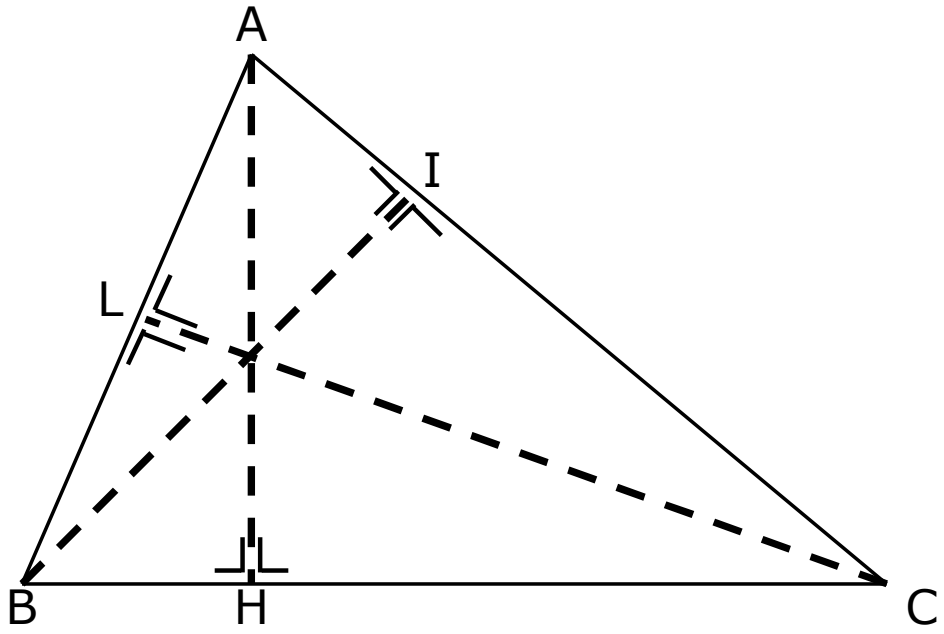
ALTITUDE

The ALTITUDE of a triangle is the perpendicular from the base to the opposite vertex:

1. A vertex(A)
2. A point on the base perpendicular to the vertex(H)

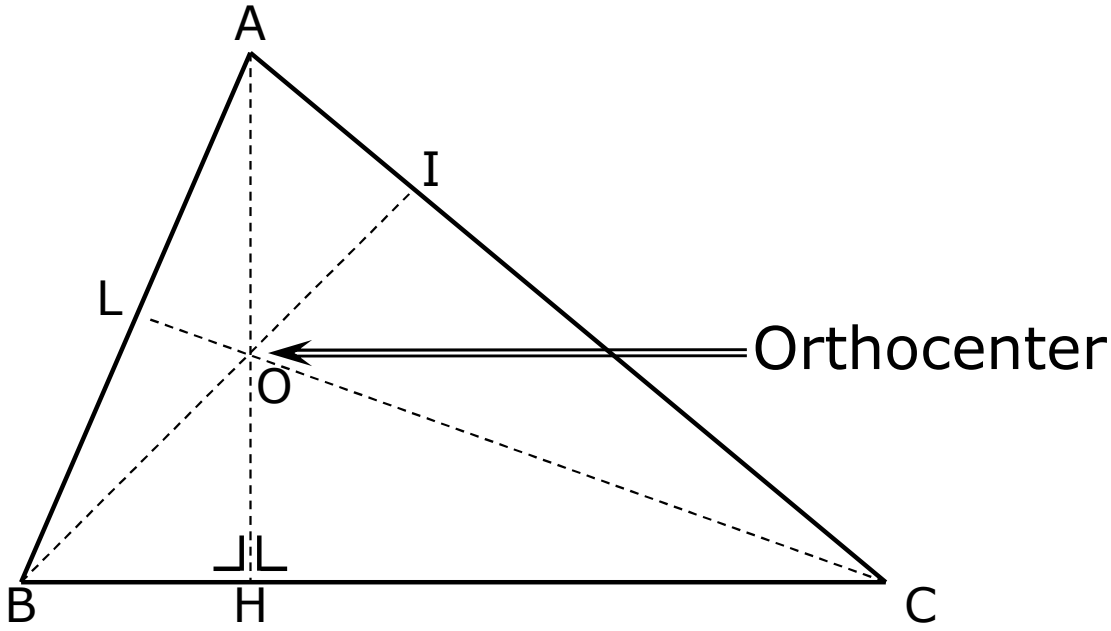


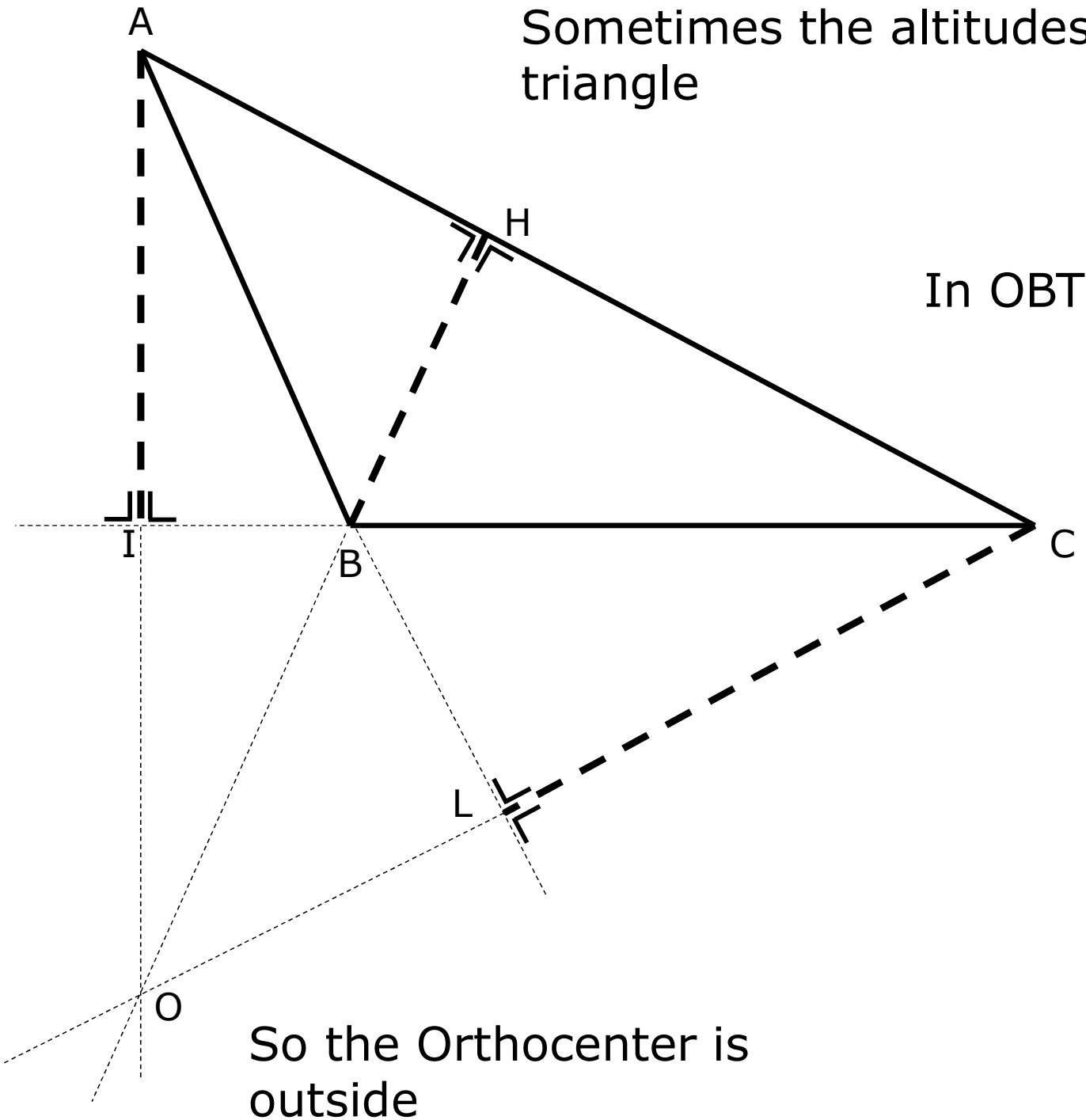
Symbol ⊥

There are three possible ALTITUDES in a triangle, one for each vertex

ORTHOCENTER

The point where the three altitudes of a triangle intersect is called Orthocenter





Sometimes the altitudes are outside the triangle

In OBTUSE TRIANGLES

So the Orthocenter is outside

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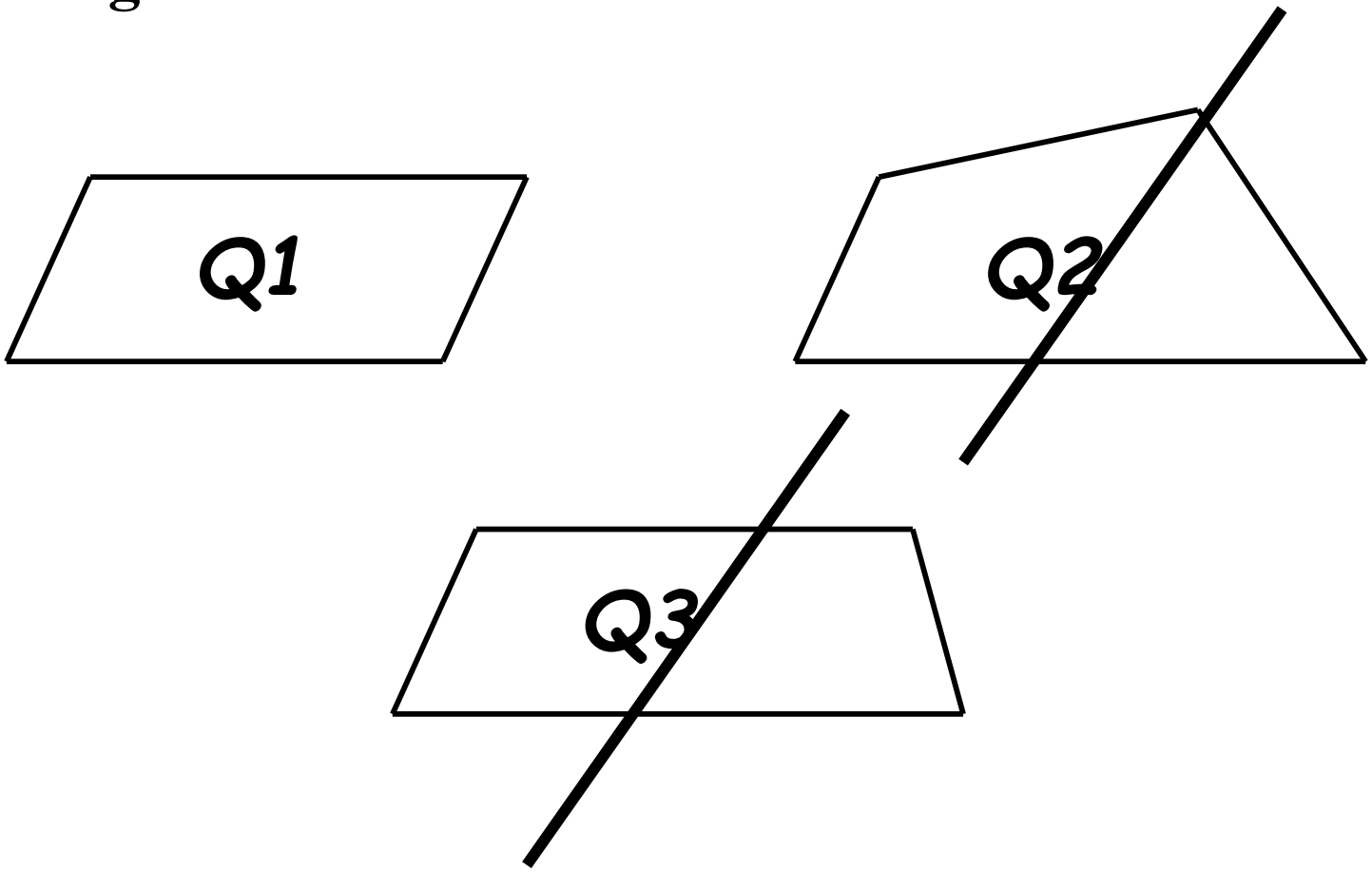
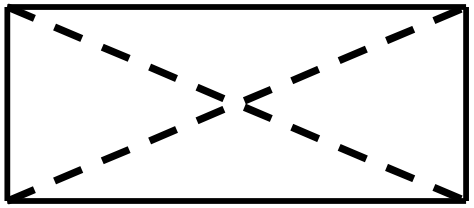
PARALLELOGRAM

A Parallelogram is a flat shape with opposite sides parallel and equal in length



RECTANGLE

A rectangle is a four-sided flat shape where every angle is a <u>right angle (90°)</u>



EQUIANGLE

THE TWO DIAGONALS ARE

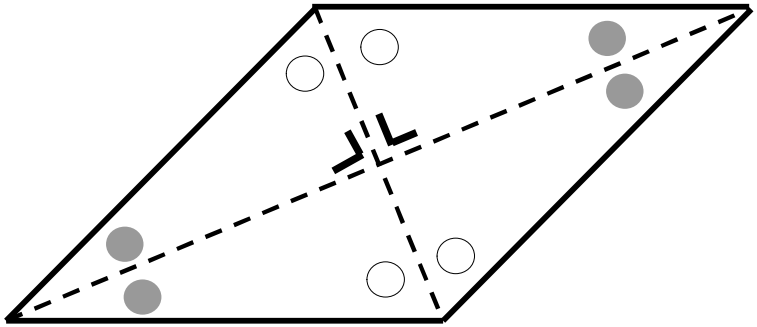
a) congruent

b) NOT perpendicular

c) NOT angle bisector

RHOMBUS

A Rhombus is a flat shape with 4 equal straight sides.



EQUILATERAL

The two diagonals are

a) perpendicular

b) Angle bisector

c) NOT congruent

SQUARE

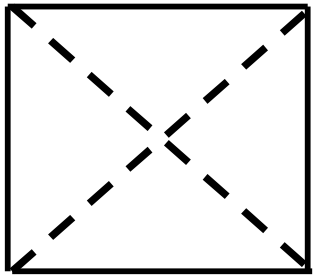
A Square is a flat shape with 4 equal sides and every angle is a right angle (90°). IT is at the same time

RECTANGLE

EQUIANGULAR

RHOMBUS

EQUILATERAL



In a square the diagonals are

a) congruent

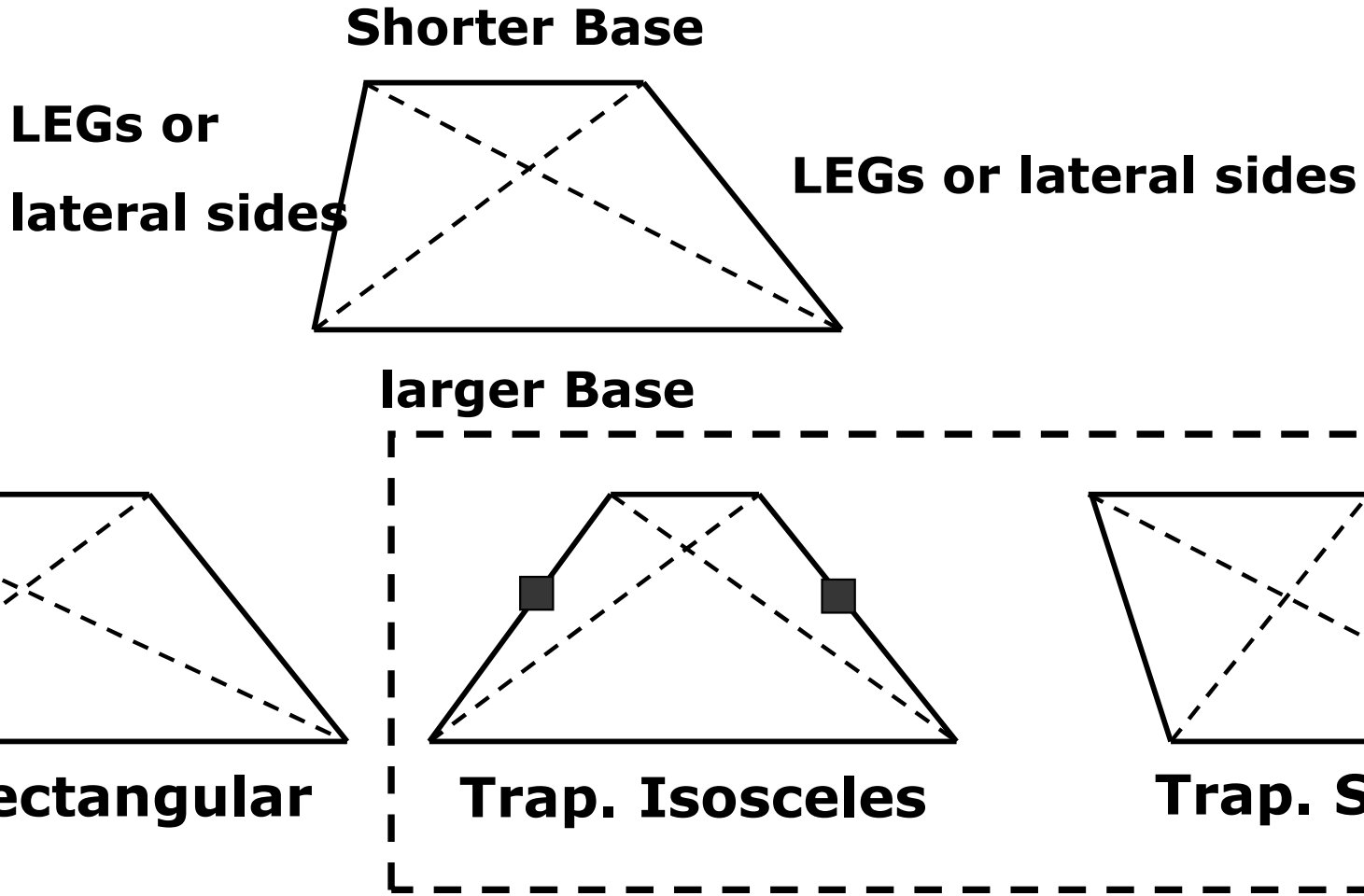
b) Angle bisector

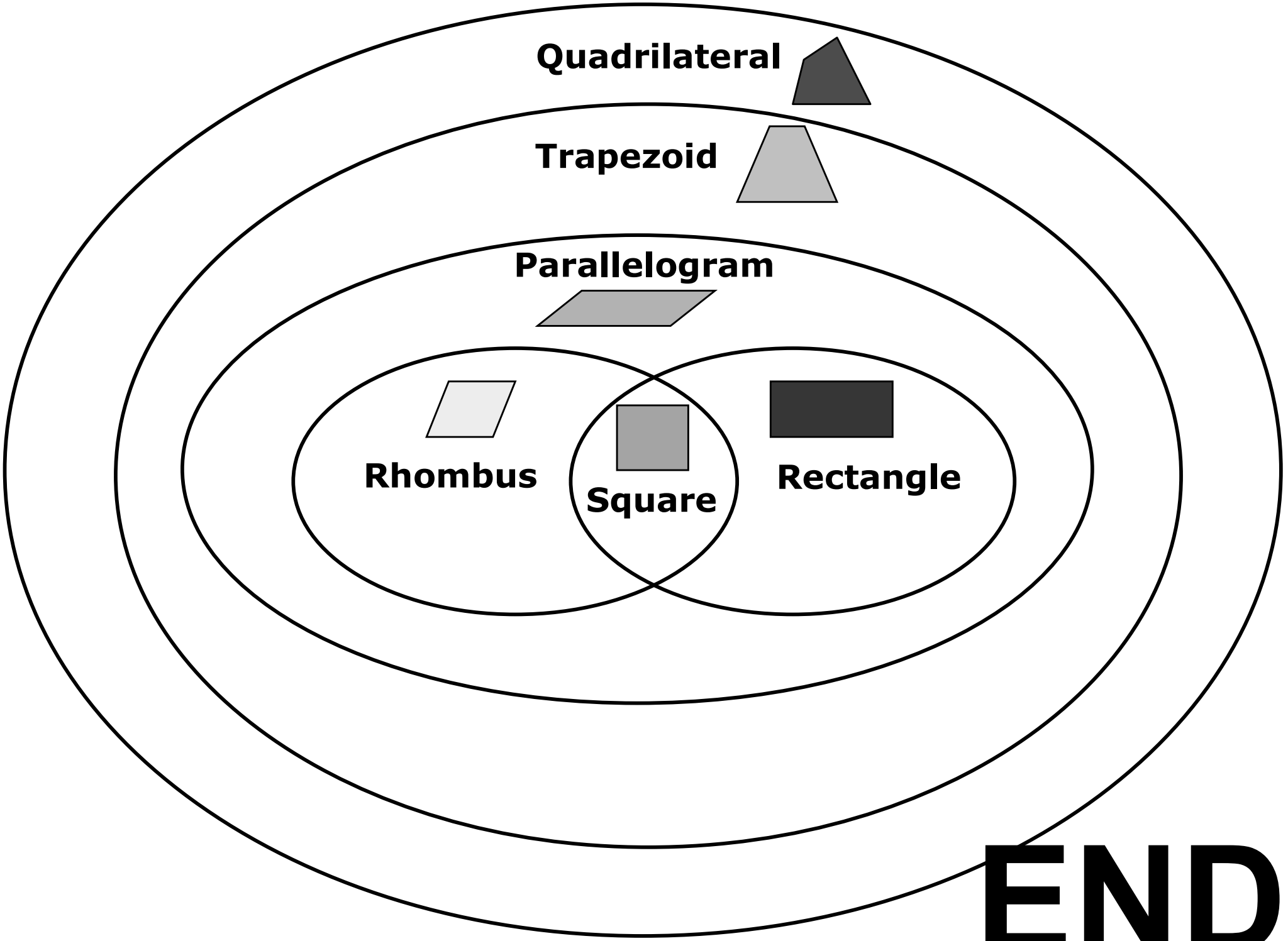
c) perpendicular

TRAPEZOID (TRAPEZIUM)

A trapezoid is a 4-sided flat shape with straight sides that has a pair of opposite sides parallel.

NOT parallelogram




Quadrilateral
Trapezoid
Parallelogram
Rhombus
Square
Rectangle

END