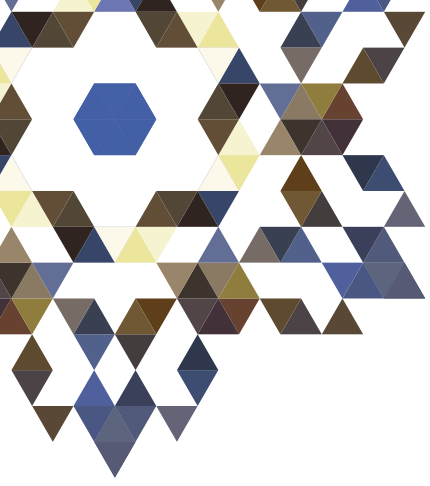


Lesson 3 – TRIANGLE.
PROPERTIES OF A TRIANGLE

Grade 10

WWW.INTOMATH.ORG





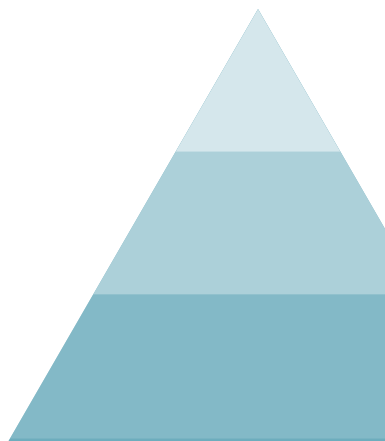
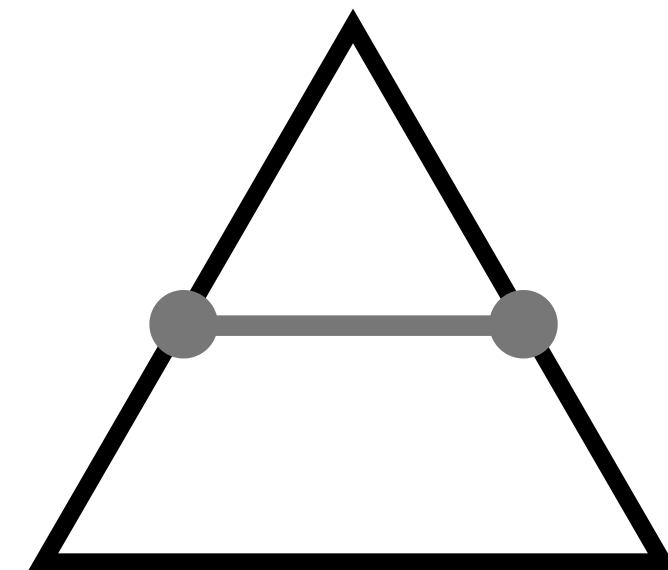
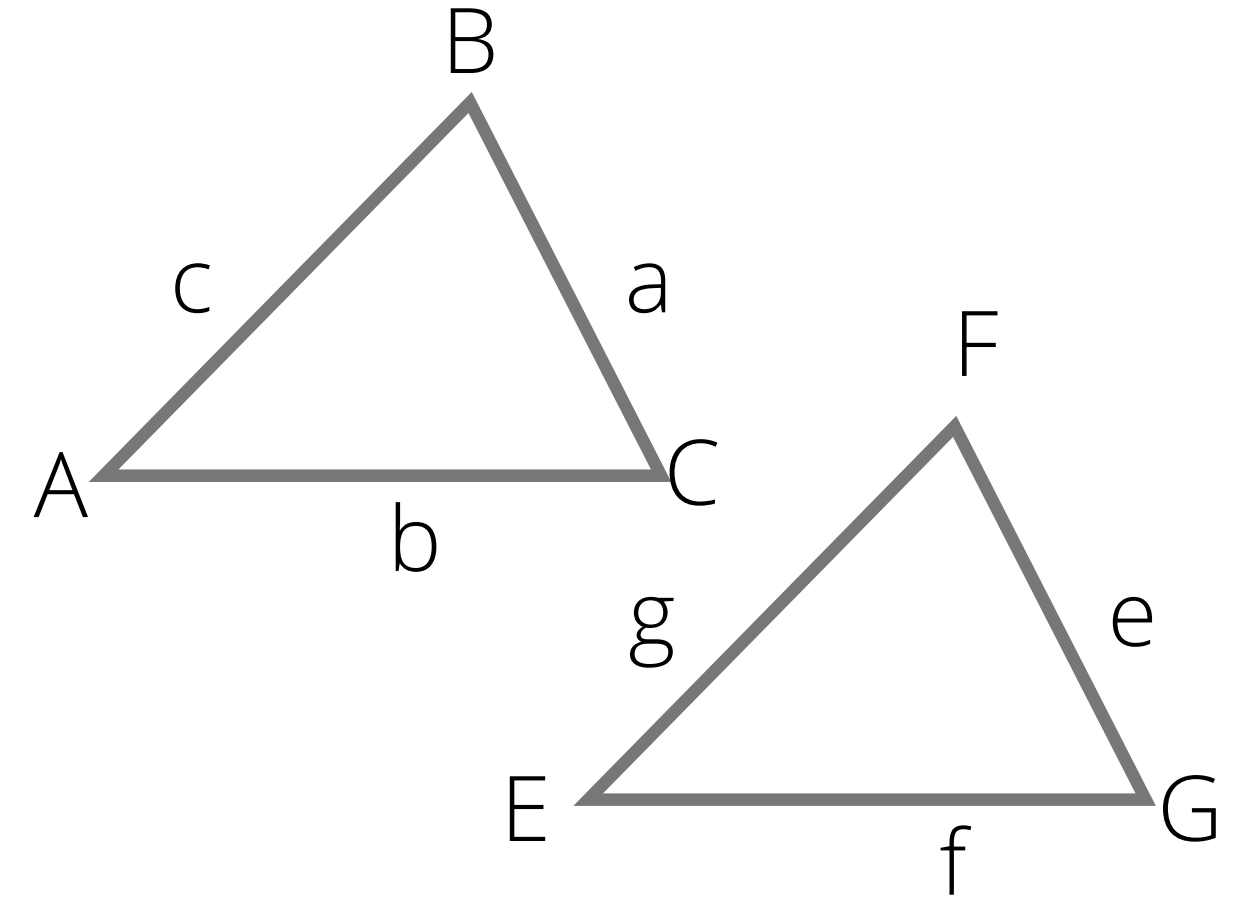
CONGRUENCY

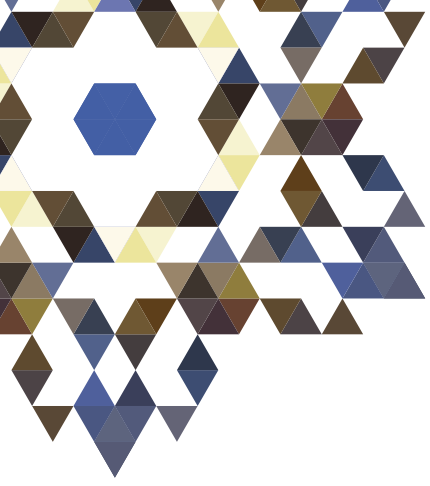
Triangles are congruent if they completely overlap when placed on top of each other. This means that their corresponding sides and angles are equal.

We label the sides using lower case letters and the angles using upper case letters and the side opposite the angle is labelled with the same letter (E-g: a and A).

A Midpoint is a point in the middle of the side of the triangle.

Midpoint Segment is a line segment, connecting two midpoints. It is parallel to the opposite side of the triangle and it half of its length.



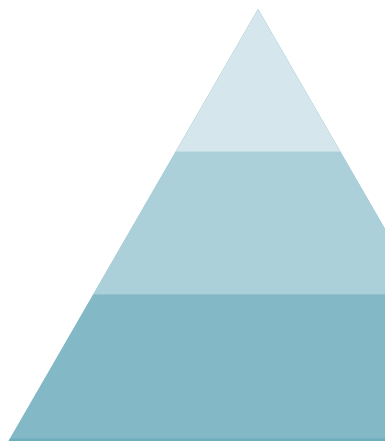
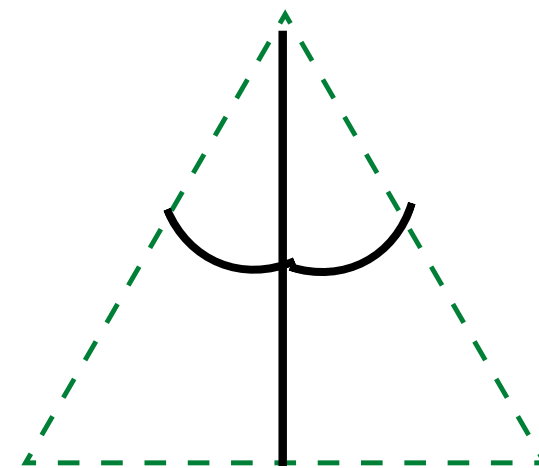
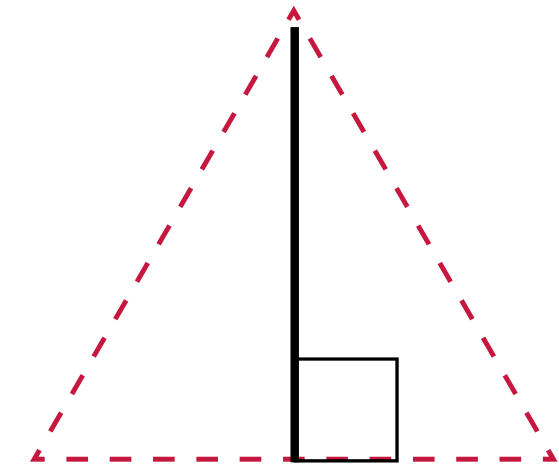
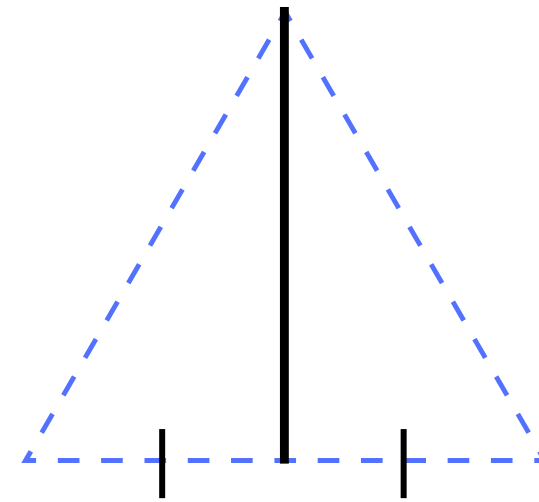


Median, Altitude, Angle Bisector

Median - a line segment, connecting one of the vertices of the triangle and a midpoint of the opposite side.

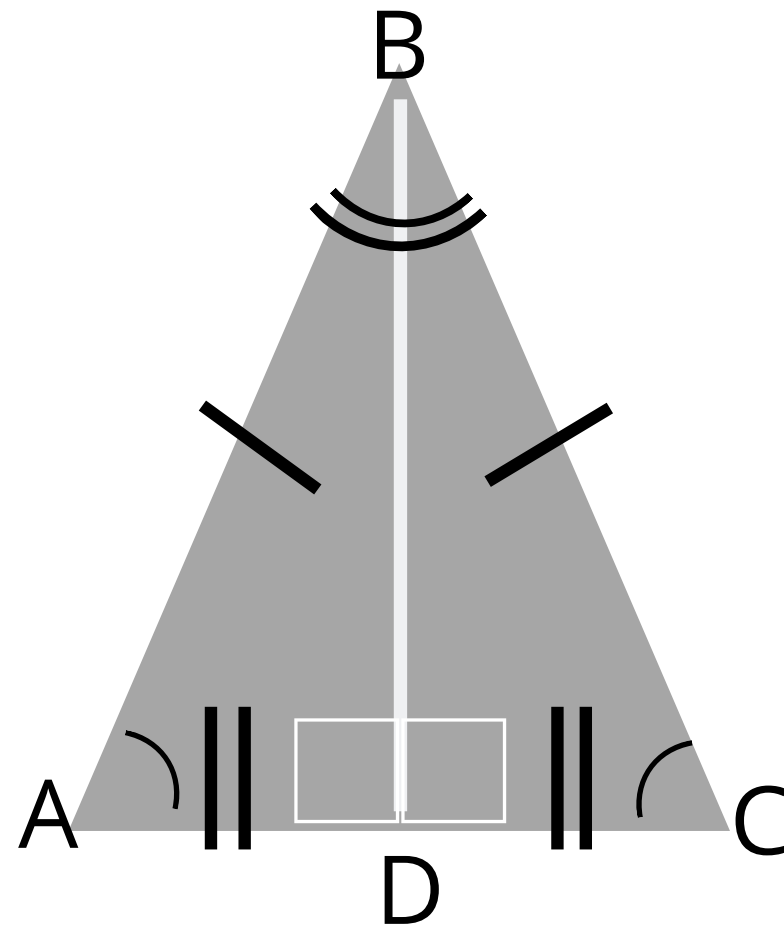
Altitude - a line segment, connecting one of the vertices of the triangle and a point on the opposite side at a right angle. The point may or may not be the midpoint.

Angle Bisector - a line segment, connecting one of the vertices of the triangle and a point on the opposite side. It bisects the angle at the vertex. The point may or may not be the midpoint.



Isosceles Triangle

An isosceles triangle is a triangle with two equal sides and two equal angles.



In the isosceles triangle
Median = Altitude = Angle Bisector

Triangle ABD = CBD and they are right triangles

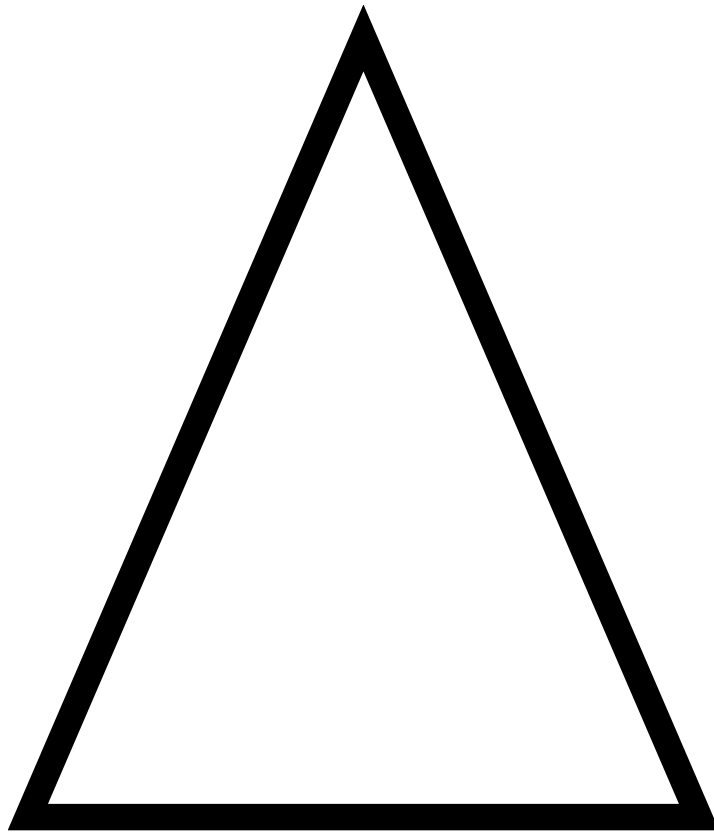
The sum of all interior angles in a triangle is 180°

Try It

The base of an isosceles triangle is 12 cm.

A median to the base is 8 cm.

Find the perimeter of this triangle.





MOVE ON TO GRADE 10 LESSON 4

**GREAT
WORK!**