

11/5/19 - Warm Up Problem

Find the measure of each numbered angle.

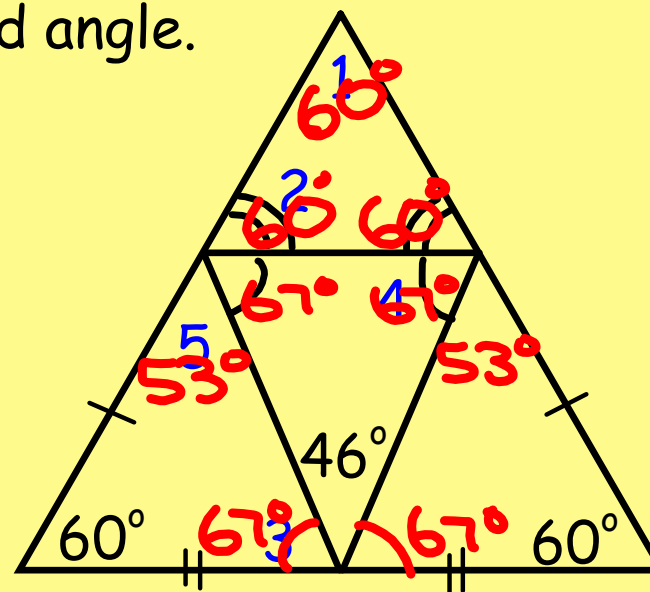
$$m\angle 1 = \underline{60^\circ}$$

$$m\angle 2 = \underline{60^\circ}$$

$$m\angle 3 = \underline{67^\circ}$$

$$m\angle 4 = \underline{67^\circ}$$

$$m\angle 5 = \underline{53^\circ}$$



Section 4.5 - Isosceles and Equilateral Triangles

Goal: Find measures of isosceles and equilateral triangles

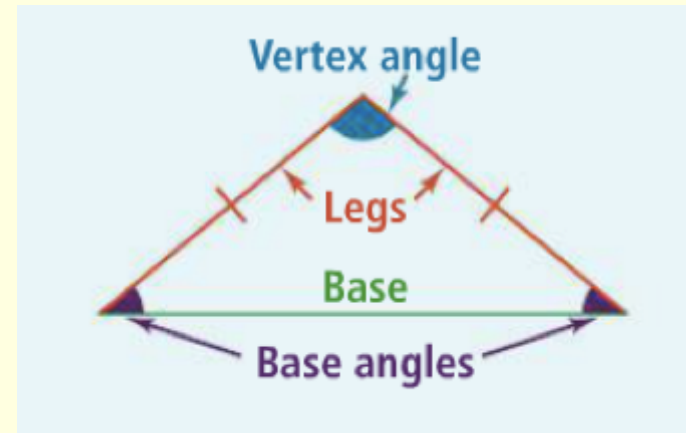
Parts of an Isosceles Triangle

Legs: the two congruent sides

Base: the third side

Base Angles: the angles on either side of the base

Vertex Angle: the angle formed by the legs

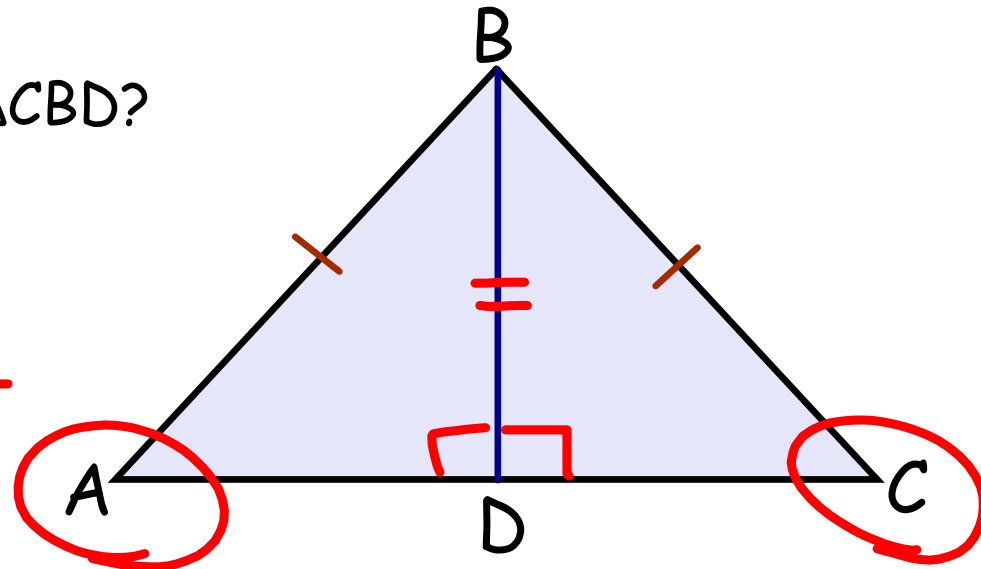


$\triangle ABC$ is an isosceles triangle.

Is $\triangle ABD$ congruent to $\triangle CBD$?

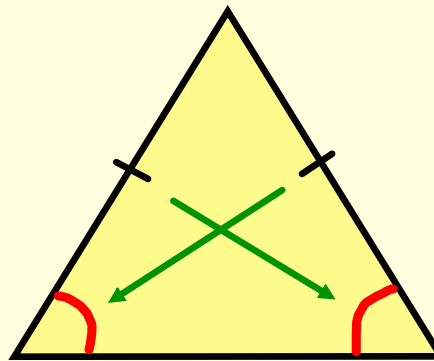
How do you know?

HL
 $\angle A \cong \angle C$
CPCTC



Isosceles Triangle Theorem

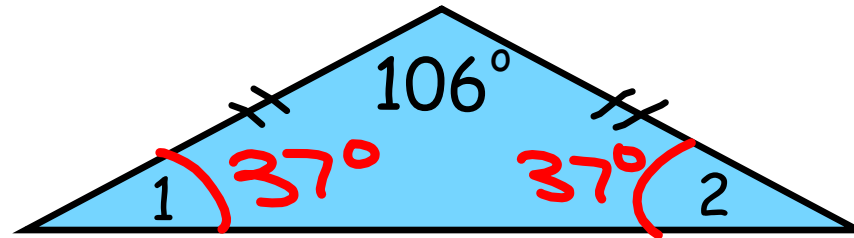
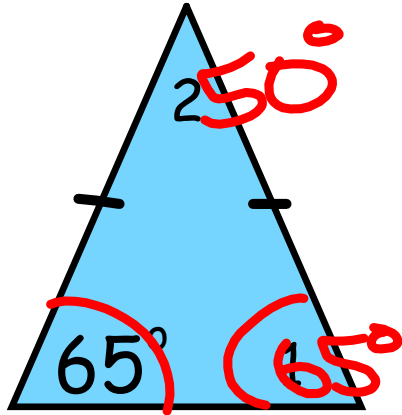
If two sides of a triangle are congruent, then the angles opposite those sides are congruent.



Converse of Isosceles Triangle Theorem

If two angles of a triangle are congruent, then the sides opposite those angles are congruent.

Find the value of each numbered angle.

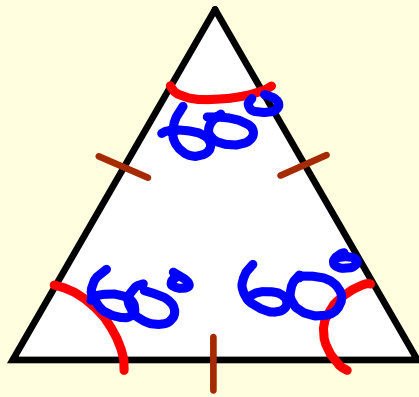


Corollary to Isosceles Triangle Theorem

If a triangle is equilateral, then it is equiangular.

Corollary to Converse of Isosceles Triangle Theorem

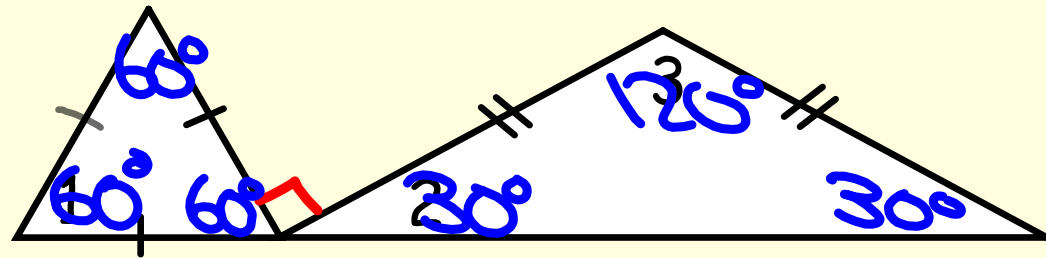
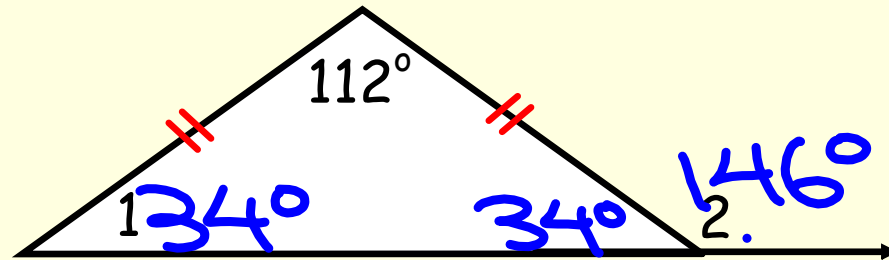
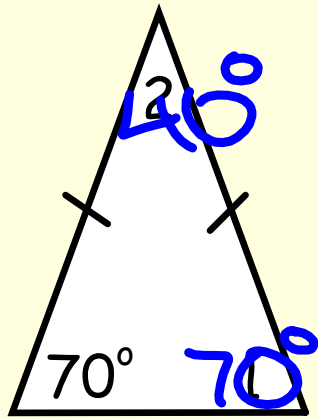
If a triangle is equiangular, then it is equilateral.



What is the measure of each angle of an equiangular triangle?

$$180 \div 3 = 60$$

Try these examples on your own...



Assignment:

Math XL

Concept 10 part 2