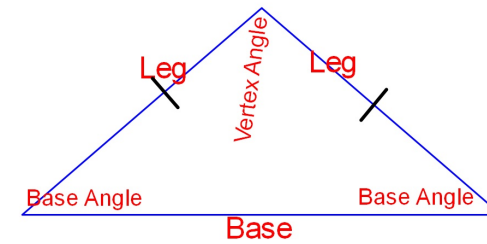


Sec 4-5: Isosceles and Equilateral Triangles

Isosceles: A triangle with at least two congruent sides

Equilateral: A triangle with all sides congruent

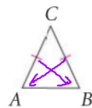
Isosceles Triangles



Theorem 4-3 Isosceles Triangle Theorem

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

$$\angle A \cong \angle B$$



Theorem 4-4 Converse of Isosceles Triangle Theorem

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

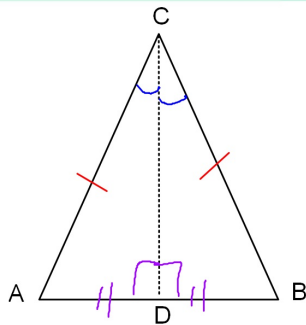
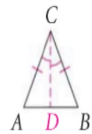
$$\overline{AC} \cong \overline{BC}$$



Theorem 4-5

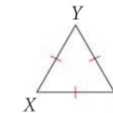
The bisector of the vertex angle of an isosceles triangle is the perpendicular bisector of the base.

$\overline{CD} \perp \overline{AB}$ and \overline{CD} bisects \overline{AB} .

**Corollary****Corollary to Theorem 4-3**

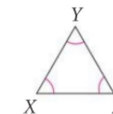
If a triangle is equilateral, then the triangle is equiangular.

$$\angle X \cong \angle Y \cong \angle Z$$

**Corollary****Corollary to Theorem 4-4**

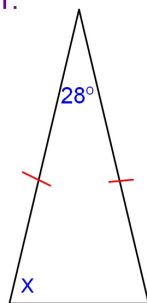
If a triangle is equiangular, then the triangle is equilateral.

$$\overline{XY} \cong \overline{YZ} \cong \overline{ZX}$$

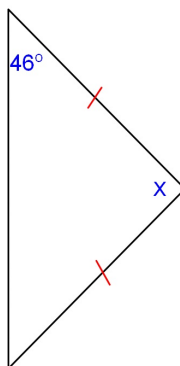


Find the value of x in each figure.

1.



2.



3. Find the value of x and y .

