Bellwork

1. Solve for x:
   $10x + 2x + 60 = 180$

2. I have three numbers that add to 180. Let one be m, the second is three times as big, and the final one is 5 times the size of the first. What are my three numbers?

Introduction to Triangles

Definitions:

Triangle: A polygon with 3 sides denoted as -

1. Triangle ABC
2. $\triangle ABC$

Congruent: Identical in form.

Classifying Triangles:

1. Classifying by Sides
2. Classifying by Angles

Classifying By Sides

1. Scalene Triangle -
   A triangle with zero (0) congruent sides.

2. Isosceles Triangle -
   A triangle with two (2) congruent sides.

3. Equilateral Triangle -
   A triangle with three (3) congruent sides.

Classifying by Angles

1. Acute Triangle:
   A triangle with three (3) acute angles.

2. Right Triangle:
   A triangle with one (1) right angle.

3. Obtuse Triangle:
   A triangle with one (1) obtuse angle.

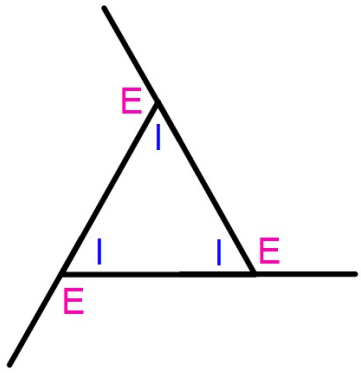
4. Equilateral Triangle:
   A triangle with three (3) congruent angles.

Types of Angles

Interior Angles - The angles that are inside of the triangle.

Exterior Angles - The angles formed by extending the sides of a triangle.

Together, they form a **LINEAR PAIR**



Theorems to Remember

Triangle Sum Theorem:

The sum of the measures of the interior angles of a triangle = 180 degrees.

Linear Pair Postulate:

If two angles form a linear pair, then the sum of their measures is 180 degrees.

Congruence Statements

About Corresponding Angles:

Write three statements showing that there is three pairs of angles are congruent.

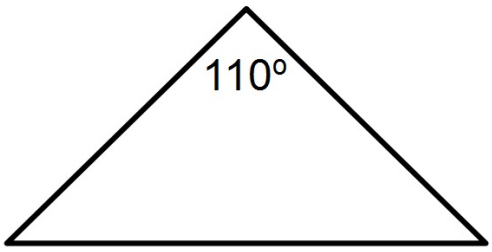
About Corresponding Sides:

Write three statements showing that there is three pairs of sides that are congruent.

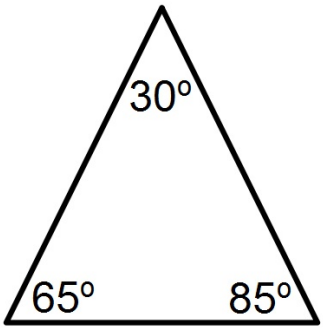
Examples

Classify each of the following triangles by its angles:

1.



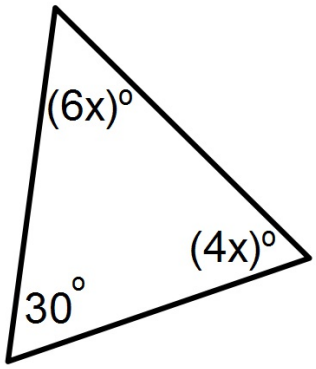
2.



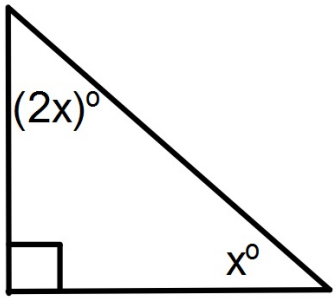
Examples

Find the measure of the angles:

3.



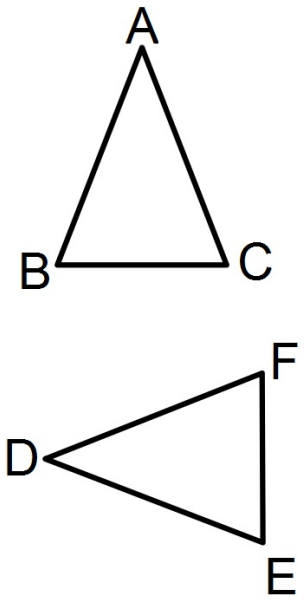
4.



Examples

Write a Congruence Statement for each of the following:

5. $\triangle ABC \cong \triangle DEF$



6. $\triangle ACB \cong \triangle DBC$