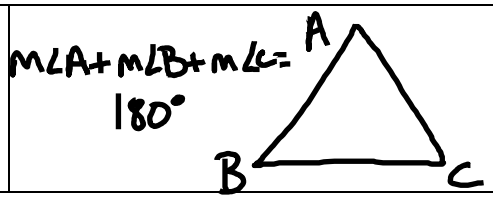
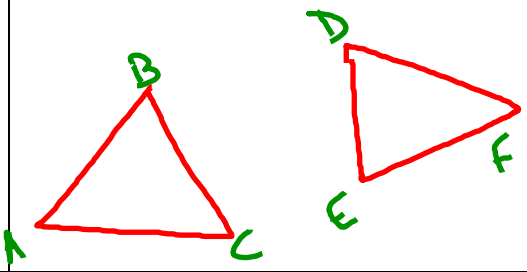
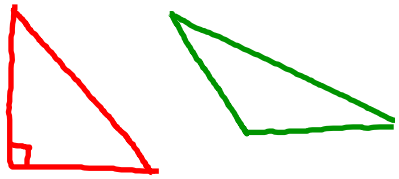
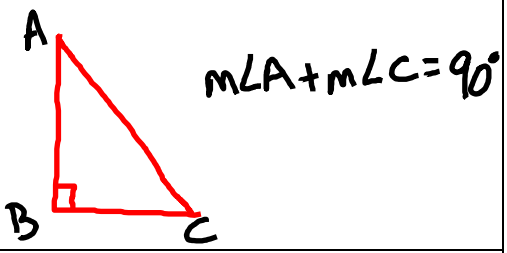
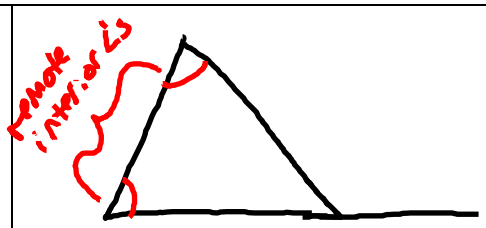
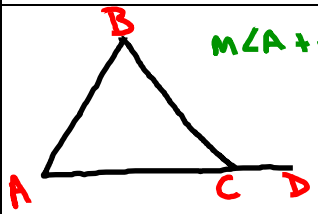
Vocabulary Sheet for Lesson 3-4 (Part II)

Theorem 3-11: The sum of the measures of the angles in a triangle is 180°.	
Definition: **Corollary-** a statement that can proved easily by applying a theorem. They can be used as reasons in a proof.	
Corollary 1: If two angles of one triangle are congruent to two angles of another triangle, then the third angles are congruent. If m∠A = m∠D and m∠B = m∠E then m∠C = m∠F	
Corollary 3: In a triangle, there can be at most one right angle or one obtuse angle.	
Corollary 4: The acute angles of a right triangle are complementary.	
Definition: **Exterior Angle-** when one side of a triangle is extended beyond a vertex point and exterior angle is formed outside (but adjacent to) the triangle.	

Definition: **Remote Interior Angles-** the two angles inside the triangle that are not adjacent to the exterior angle.

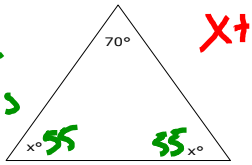


Theorem 3-12: The measures of an exterior angle of a triangle equals the sum of the measures of the two remote interior angles.



Example 5

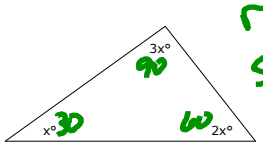
- Find the value of x then classify the triangle.



acute
isosceles
55
55
x + x + 70 = 180
2x = 110
x = 55

Example 6

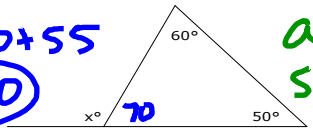
- Find the value of x then classify the triangle.



right
Scalene
30
60
3x + x + 2x = 180
6x = 180
x = 30

Example 7

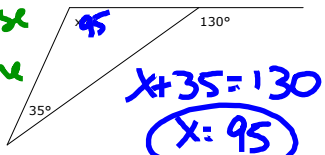
- Find the value of x then classify the triangle



x = 60 + 55
x = 110
acute
Scalene

Example 8

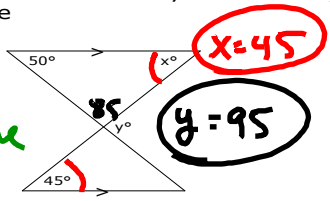
- Find the value of x then classify the triangle



obtuse
Scalene
x + 35 = 130
x = 95

Example 9

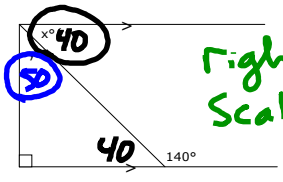
- Find the values of x and y then classify the triangle



x = 45
y = 95
acute
Scalene

Example 10

- Find the values of x and y then classify the triangle



right
Scalene