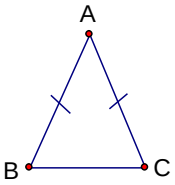
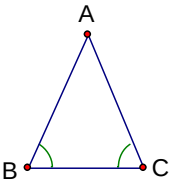
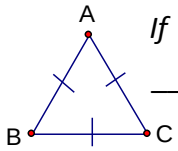
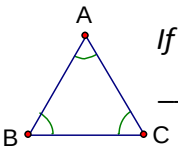
Geometry – A
4.7
Study Guide

Name: _____

Date: _____ Period: _____

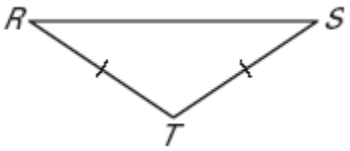
I can use theorems about isosceles and equilateral triangles to solve problems.

First things first: Some theorems that will help you solve problems in this section.

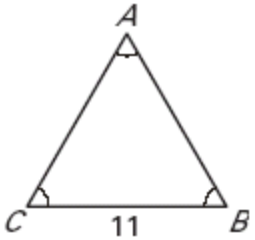
Theorem	Explanation	Picture
Base Angles Theorem	If two _____of a triangle are congruent, then the _____ opposite them are congruent	 *If* $\overline{AB} \cong \overline{AC}$, *then* _____ ≅ _____
Converse of the Base Angles Theorem	If two _____ of a triangle are congruent, then the _____ opposite them are congruent	 *If* $\angle B \cong \angle C$, *then* _____ ≅ _____
Corollary of the Base Angles Theorem	If a triangle is _____, then it is _____	 *If* $\overline{AB} \cong \overline{BC} \cong \overline{AC}$, *then* _____ ≅ _____ ≅ _____
Corollary to the converse of the Base Angles Theorem	If a triangle is _____, then it is _____	 *If* $\angle A \cong \angle B \cong \angle C$, *then* _____ ≅ _____ ≅ _____

Now let's try some examples:

1) In the diagram, $\overline{RT} \cong \overline{ST}$.
Please name two congruent angles.

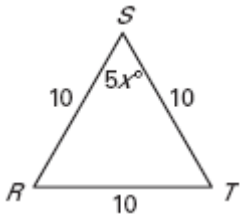


2) Find *AC* and *AB* in the triangle below.

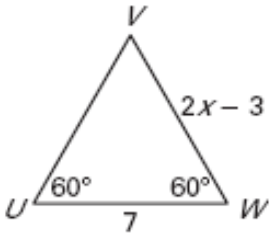


Please solve for *x*.

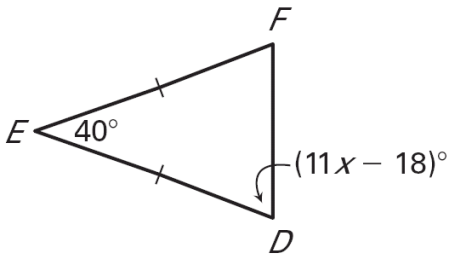
3)



4)

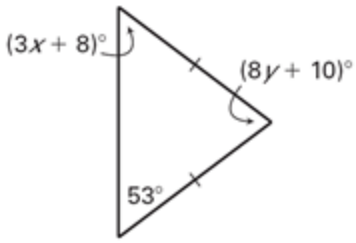


5)

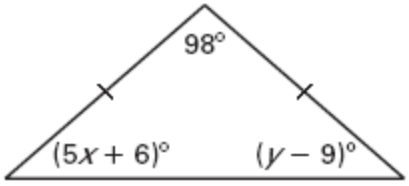


Please find the values of x and y.

6)

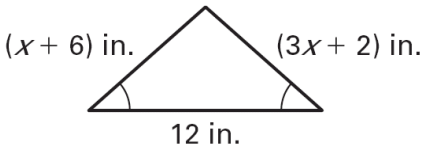


7)



Please find the perimeter of the triangle.

8)



9)