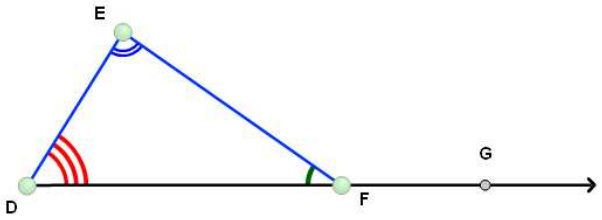
Name_____Date_____Period_____

We will be able to: _____

Warm-Up:

a) Given that $m\angle GFE = 145°$, use what you know about linear pairs to find $m\angle DFE$. Show work your work below:

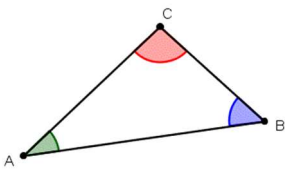
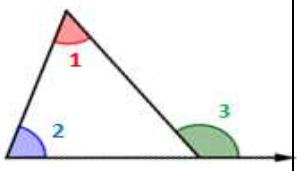


b) Given that $m\angle GDE = 58°$, find $m\angle DEF$ using what you know about the sum of the interior angles of a triangle.

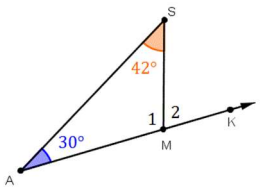
c) $m\angle DEF + m\angle GDE =$ _____

d) $m\angle GFE =$ _____

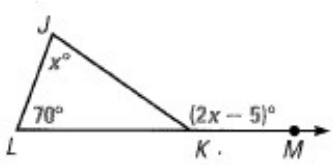
e) Using key vocabulary, describe what you notice about your answers to part *c* and *d*.

Triangle Sum Theorem	 $m\angle A + m\angle B + m\angle C = 180$		
Exterior Angle Theorem	 $m\angle 1 + m\angle 2 = m\angle 3$		

Example 1: Find m∠2. Then, classify the triangle by its angles.



Example 2: Find the value of *x* and the measure of the exterior angle. Then, classify the triangle by its angles.

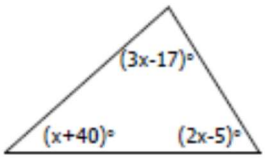


Name_____Date_____Period_____

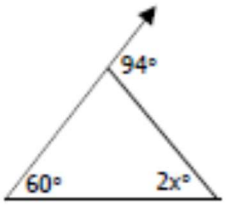
Independent Practice

Find the value of *x*. Justify your answer by naming the theorem you used.

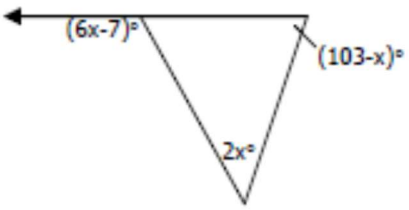
1.



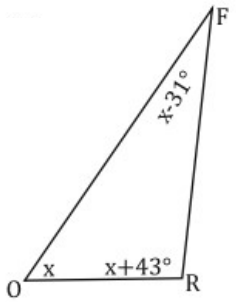
2.



3.

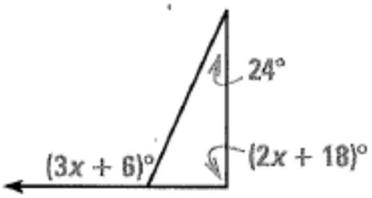


4.

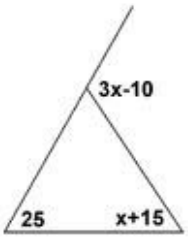


Find the value of *x* and the three interior angle measures of each triangle. Then, classify the triangle by its angles.

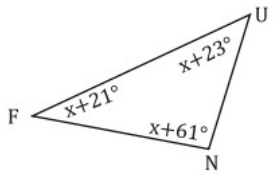
5.



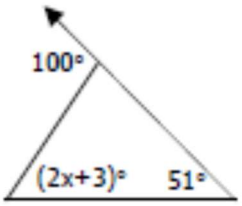
6.



7.

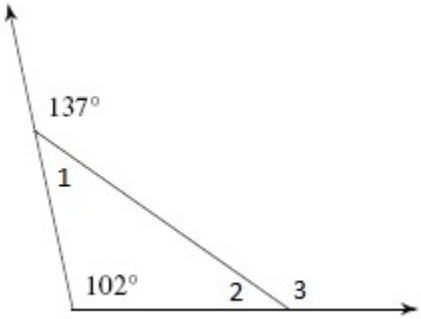


8.



Find the measurement of angles 1, 2, 3 and 4 in the following diagrams.

9.



10.