Name _____

Upward Bound Summer 2011: Geometry

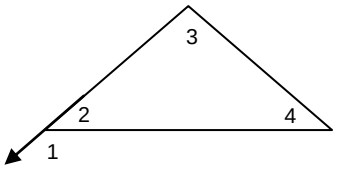
WORKSHEET #10

OBJECTIVE:

I will be able to use the Triangle Exterior Angle Theorem to solve problems.

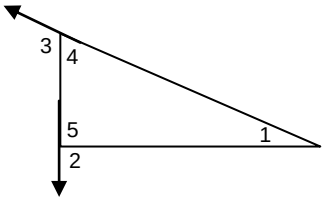
NEW CONCEPT:

New Vocabulary → exterior angle, remote interior angles



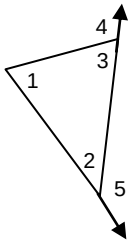
Exterior angle:

Remote interior angles:



Exterior angle:

Remote interior angles:



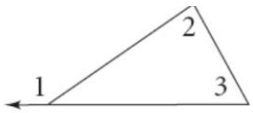
Exterior angle:

Remote interior angles:

The Triangle Exterior Angle Theorem:

The measure of each exterior angle of a triangle equals the sum of the measures of its two remote interior angles.

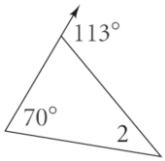
$m\angle 1 = m\angle 2 + m\angle 3$



NOTES AND EXAMPLES:

Example 1: In each triangle, find $m\measuredangle 1$.

a)



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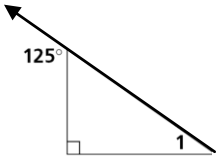

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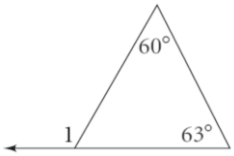
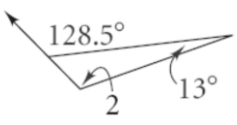
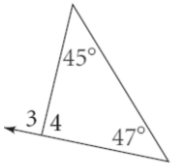


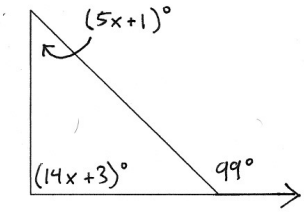
Example 2: Find $m\measuredangle 2$

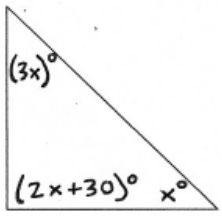


Example 3: Find $m\measuredangle 3$ and $m\measuredangle 4$



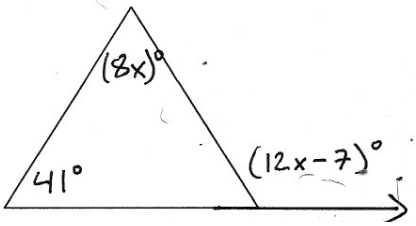
Example 4: Solve for x and find the measure of all missing angles.





More Practice: In each triangle below, solve for x and find the measures of all missing angles.

1)



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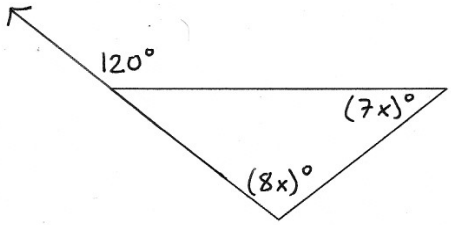

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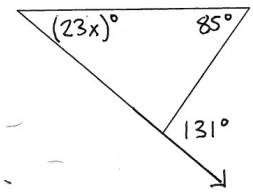

4)