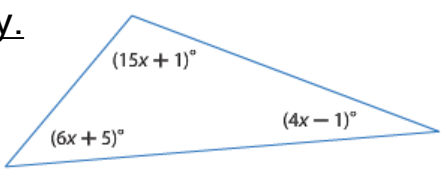


BELLWORK - Monday, November 3rd

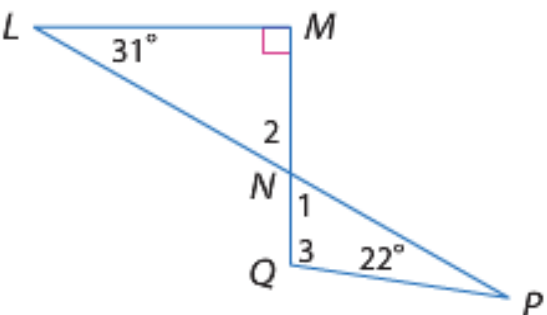
Skill:

- $32 + x = 112$
- $90 + x + 42 = 180$

Extension: Classify the triangle by its angles. Explain why.



Concept: Find the measure of each numbered angle.

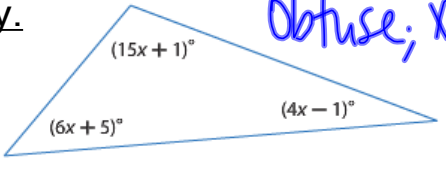


BELLWORK - Monday, November 3rd

Skill:

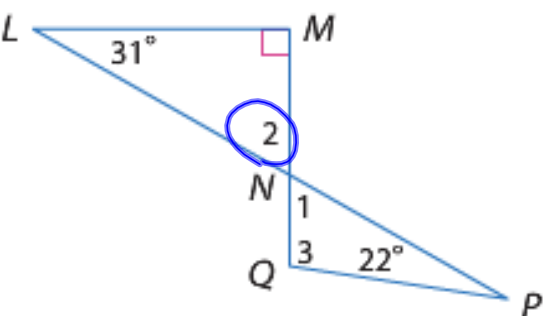
- $32 + x = 112$
 $x = 80$
- $90 + x + 42 = 180$
 $x = 48$

Extension: Classify the triangle by its angles. Explain why.



Obtuse; $x = 7$

Concept: Find the measure of each numbered angle.



$m\angle 1 = 59^\circ$
 $m\angle 2 = 59^\circ$
 $m\angle 3 = 99^\circ$

HW Check: Page 251 #s 16 - 28 Even

16. a) isosceles, obtuse
b) 3.5°

22. 31

24. 62

18. 65

26. 26

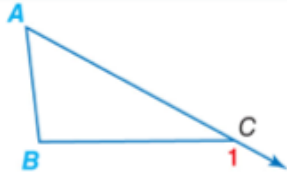
20. 33

28. 55

Theorem 5.8 Exterior Angle Inequality

The measure of an exterior angle of a triangle is greater than the measure of either of its corresponding **remote interior angles**. *→ non-adjacent*

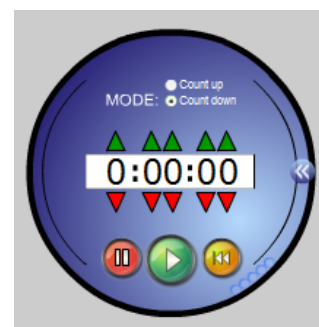
Example: $m\angle 1 > m\angle A$
 $m\angle 1 > m\angle B$



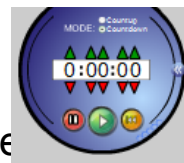
With your partner, decide why this is true.

(consider what you know about exterior angles)

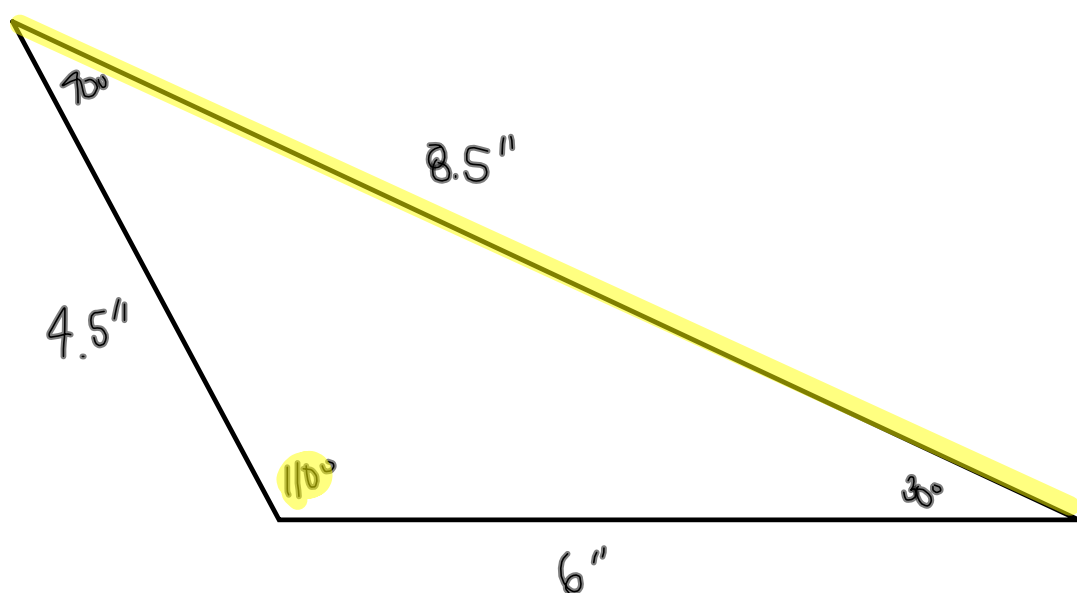
$$m\angle A + m\angle B = m\angle 1$$



Angle-Side Investigation



1. Use a ruler to draw a LARGE scalene triangle on the back of a sheet of paper.
2. Use a ruler and a protractor to measure the sides and the angles of the triangle.
3. Use a marker to highlight the longest side of the triangle.
4. Use the same color to highlight the largest angle in the triangle.
5. Use a different colored marker to highlight the shortest side of the triangle.
6. Using the same marker as in step #5, highlight the smallest angle measure.



THINK

What relationship do you notice between the longest side of the triangle and the angle with the greatest measure? Do you think this relationship is true for every triangle? Why?

PAIR

When I give you the go-ahead, pair up with a classmate who has the same eye color as you.

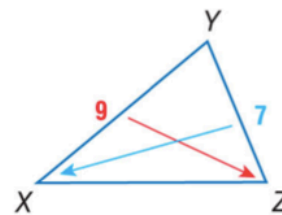
SHARE

Share what you concluded from above with your partner.

Theorems Angle-Side Relationships in Triangles

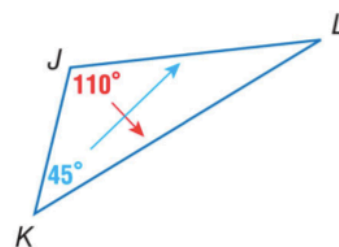
5.9 If one side of a triangle is longer than another side, then the angle opposite the longer side has a greater measure than the angle opposite the shorter side.

Example: $XY > YZ$, so $m\angle Z > m\angle X$.



5.10 If one angle of a triangle has a greater measure than another angle, then the side opposite the greater angle is longer than the side opposite the lesser angle.

Example: $m\angle J > m\angle K$, so $KL > JL$.



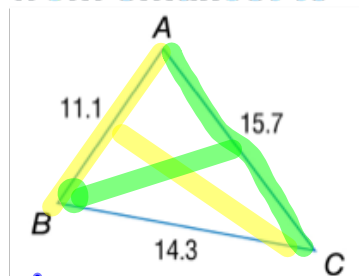
Example 2

List the angles of $\triangle ABC$ in order from smallest to largest.

largest \angle across from the longest side.

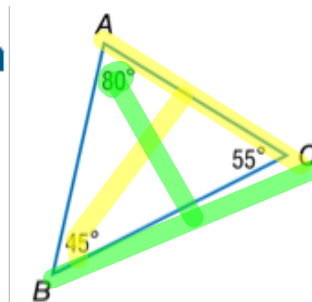
Smallest \angle is across from the shortest side

$\angle C, \angle A, \angle B$



Example 3

List the sides of $\triangle ABC$ in order from shortest to longest.



$\overline{AC}, \overline{AB}, \overline{BC}$

During lifeguard training, an instructor simulates a person in distress so that trainees can practice their rescue skills. If the instructor, Trainee 1, and Trainee 2 are located in the positions shows on the diagram, which of the two trainees is closest to the instructor?

Trainee #1

