5-4-18

Aim: SWBAT classify triangles and investigate the relationship between their sides and angles.

HW: Worksheet (Highlighted Problems)

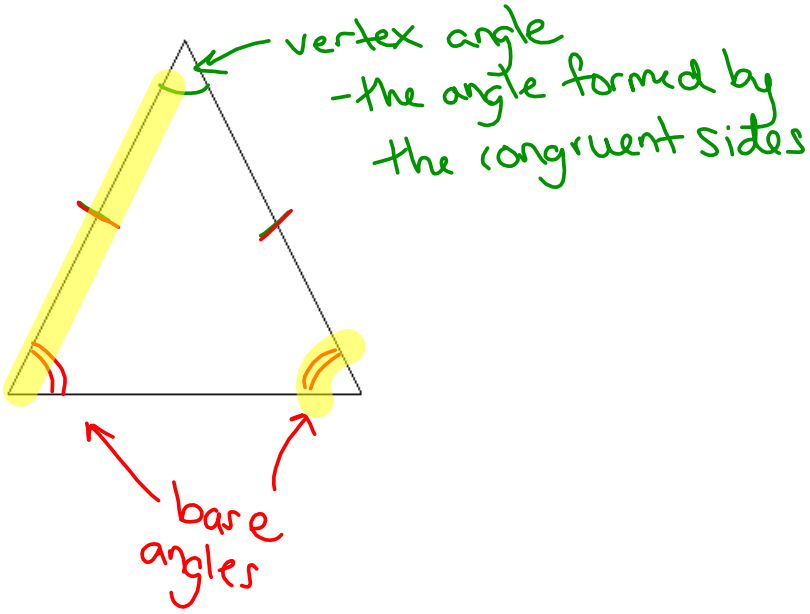
Do Now: Continue notes

IMPORTANT FACTS

- The side opposite the largest < is the longest side.
- The side opposite the smallest < is the shortest side.
- The < opposite the longest side is the largest <.
- The < opposite the shortest side is the smallest <.

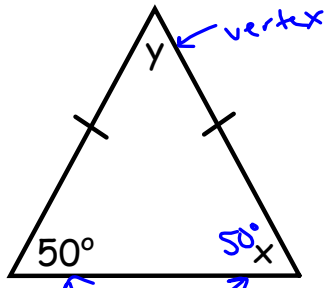
Notes on Isosceles Triangles:

- 2 sides are congruent
- Therefore, 2 <'s are congruent called the base <'s.
- The angles opposite the congruent sides are also congruent.
- The third remaining angle is called the vertex angle.



Classwork - Classifying Triangles

Use the following diagram to answer questions 1-4.



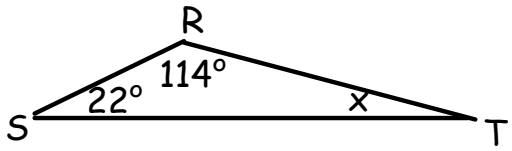
1) Find the m<x. 50°

2) Find the m<y. 80°

3) Classify the triangle by its **sides**. _____
(scalene, isosceles or equilateral)

4) Classify the triangle by its **angles**. _____
(acute, obtuse or right)

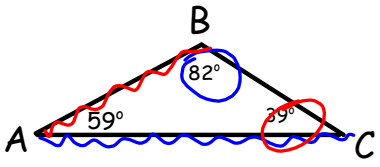
5) Solve for the missing angle **ALGEBRAICALLY**.



6) Name the shortest and longest sides of the triangle.

shortest - $\overline{AB}$

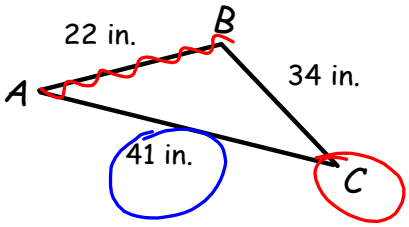
longest - $\overline{AC}$



7) Name the smallest and largest angles of the triangle.

smallest - $\angle C$

largest - $\angle B$

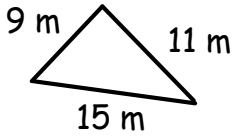


Name: _____ Date: _____

Homework - Classifying Triangles

Name each triangle according to the <u>length of its sides</u>.

1)



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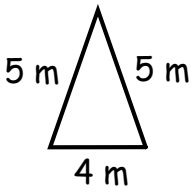
2)



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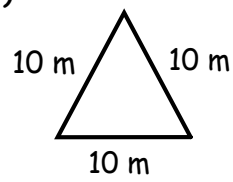
3)



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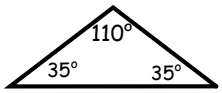
Name each triangle according to the <u>measure of its angles</u>.

4)



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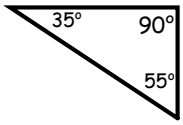
5)



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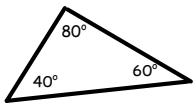
6)



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Find the measure of the third angle in each triangle ALGEBRAICALLY! Classify each triangle by its sides and angles.

7)

obtuse

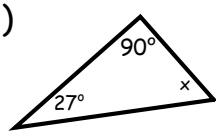
$x + 120 + 30 = 180$

$x + 150 = 180$

$-150 \quad -150$

$x = 30$

8)



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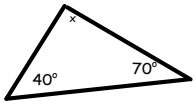

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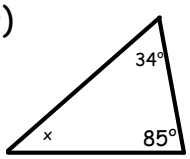
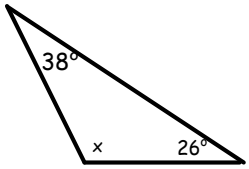


11)



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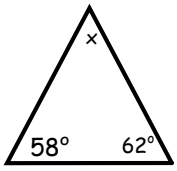
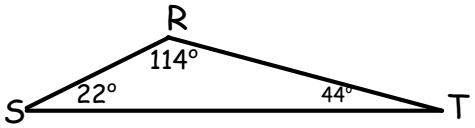


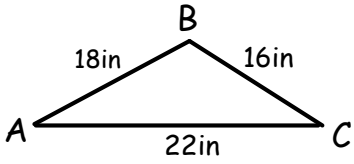
13) Name the shortest and longest sides of the triangle.



shortest _____

longest _____

14) Name the largest and smallest angles of the triangle



largest _____

smallest _____

Name: _____ Date: _____

AIM: SWBAT set-up and solve an equation to find the missing angle in a triangle.

DO NOW - Use your notes!

Given the following measurements classify each triangle by its **SIDES**.

1) 3cm, 3 cm, 3 cm 2) 7 m, 5 m, 8 m 3) 6 in, 2 in, 6 in

_____ _____ _____

Given the following measurements classify each triangle by its **ANGLES**.

4) 30°, 60°, 90° 5) 42°, 86°, 52° 6) 110°, 50°, 20°

_____ _____ _____

CLASSWORK:

For each question you need to:

- Define a variable (write a let statement)
- Set up an algebraic equation
- Solve the equation
- Write your final answer in a sentence

1) In ΔABC, $m\angle A$ is 36° and $m\angle B$ is 47°. What is the measure of $\angle C$?

2) ΔMST is an **isosceles** triangle. A **base** angle measures 50°. What is the measure of the vertex angle?