

5-3-18

Aim: SWBAT begin to classify triangles by their sides and angles.

Do Now: Quiz

HW: WS # 1 - 12

Name: _____ Date: _____

AIM: SWBAT classify triangles by their angles and by their sides.**DO NOW - Review basic triangle facts**The **sum** of the measure of the angles of a triangle is equal to 180 degrees.

$$m\angle 1 + m\angle 2 + m\angle 3 = \underline{180} \quad 0^\circ < x < 90^\circ$$

How many degrees are in an acute angle? less than 90, but more than 0How many degrees are in a right angle? 90° more than 90°, less than 180°How many degrees are in an obtuse angle? 90° < x < 180°Can a triangle have 2 right angles? No Why or why not? 90 + 90 = 180°,There is nothing left for a third angle.Can a triangle have 2 obtuse angles? No Why or why not? Two obtuseangles sum to more than 180°.All triangles have **at least 2** acute angles. The third angle determines what type of triangle it is.**Notes:**3 ways to **classify** a triangle by its **angles**:

- 1) Acute - 3 acute angles
- 2) Right - 1 right and 2 acute angles
- 3) Obtuse - 1 obtuse and 2 acute angles

3 ways to **classify** a triangle by its **sides**:

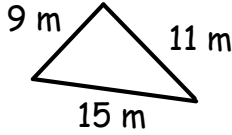
- 1) Equilateral - all sides \cong
- 2) Isosceles - 2 \cong sides
- 3) Scalene - all sides different

Name: _____ Date: _____

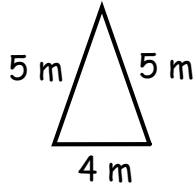
Homework - Classifying Triangles

Name each triangle according to the length of its sides.

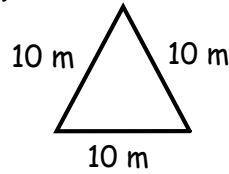
1)



2)

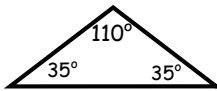


3)

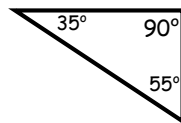


Name each triangle according to the measure of its angles.

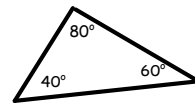
4)



5)

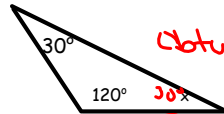


6)



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

7)



obtuse

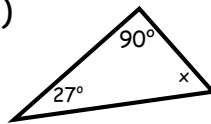
$$x + 120 + 30 = 180$$

$$x + 150 = 180$$

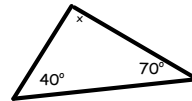
$$\underline{-150 \quad -150}$$

$$x = 30$$

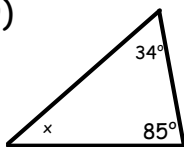
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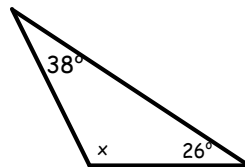
9)



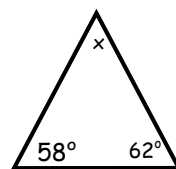
10)



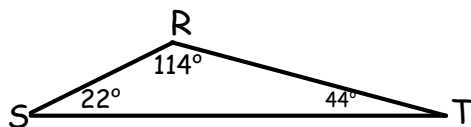
11)



12)

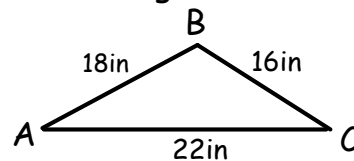


13) Name the shortest and longest sides of the triangle.



shortest _____
longest _____

14) Name the largest and smallest angles of the triangle



largest _____
smallest _____