

5-14-19

Aim: SWBAT classify a triangle by its angle measures and its side lengths.

HW: Packet Pages 9 - 10

Test Tuesday

Do Now: Pencil and Protractor

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CLASSIFYING TRIANGLES BY ANGLE MEASURES

- **Acute Triangle**

- 3 acute angles
 - all three angles are less than 90°

- **Right Triangle**

- 1 right angle and 2 acute angles
 - one angle is 90° and the other two are less than 90°

- **Obtuse Triangle**

- 1 obtuse angle and 2 acute angles
 - one angle is more than 90° and the two are less than 90°

CLASSIFYING TRIANGLES BY SIDE LENGTHS

- **Equilateral Triangle**

- 3 congruent (\cong) side lengths
 - all three sides are the same length

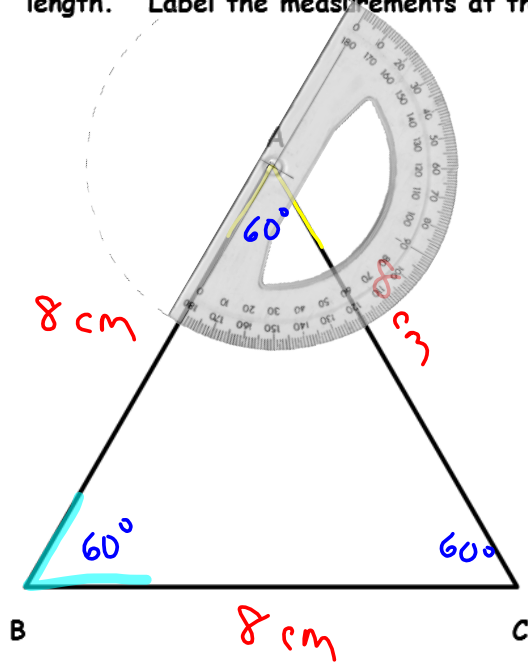
- **Isosceles Triangle**

- 2 congruent (\cong) side lengths
 - 2 sides have the same length and 1 side has a different length

- **Scalene Triangle**

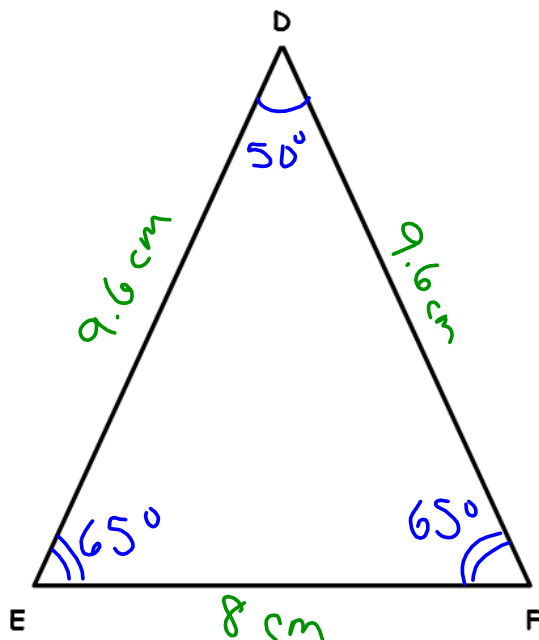
- 0 congruent (\cong) side lengths
 - None of the sides are the same length

Use a protractor to measure each unknown angle and a ruler to measure each unknown side length. Label the measurements at the triangle and complete the table.



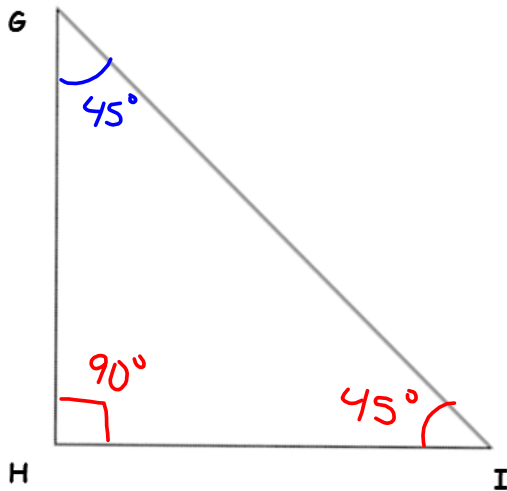
ANGLE MEASURES	SIDE LENGTHS
$m\angle A = 60^\circ$	$\overline{AB} = 8 \text{ cm}$
$m\angle B = 60^\circ$	$\overline{AC} = 8 \text{ cm}$
$m\angle C = 60^\circ$	$\overline{BC} = 8 \text{ cm}$
Classify <input checked="" type="radio"/> Acute <input type="radio"/> Right <input type="radio"/> Obtuse	Classify <input checked="" type="radio"/> Equilateral <input type="radio"/> Isosceles <input type="radio"/> Scalene

Total: 180°



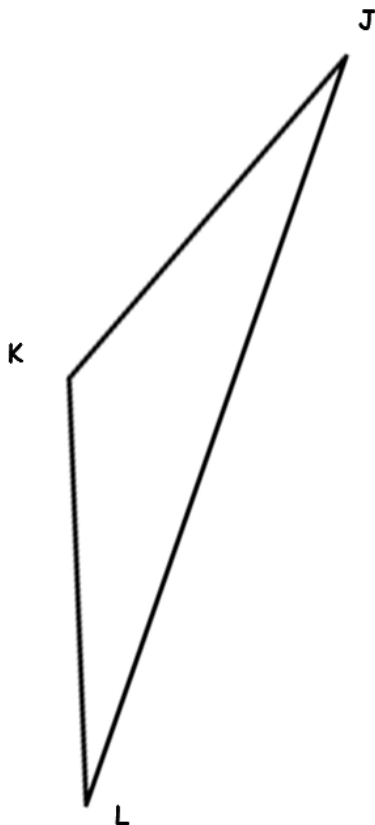
ANGLE MEASURES	SIDE LENGTHS
$m\angle D = 50^\circ$	$\overline{DE} = 9.6 \text{ cm}$
$m\angle E = 65^\circ$	$\overline{DF} = 9.6 \text{ cm}$
$m\angle F = 65^\circ$	$\overline{EF} = 8 \text{ cm}$
Classify <input checked="" type="radio"/> Acute <input type="radio"/> Right <input type="radio"/> Obtuse	Classify <input type="radio"/> Equilateral <input checked="" type="radio"/> Isosceles <input type="radio"/> Scalene

Total: 180°



ANGLE MEASURES	SIDE LENGTHS
$m\angle G = 45^\circ$	$\overline{GH} = \underline{\hspace{1cm}} \text{ cm}$
$m\angle H = 90^\circ$	$\overline{GI} = \underline{\hspace{1cm}} \text{ cm}$
$m\angle I = 45^\circ$	$\overline{HI} = \underline{\hspace{1cm}} \text{ cm}$
Classify Acute <u>Right</u> Obtuse	Classify Equilateral Isosceles Scalene

Total: 180°



ANGLE MEASURES	SIDE LENGTHS
$m\angle J = \underline{\hspace{1cm}}^\circ$	$\overline{JK} = \underline{\hspace{1cm}} \text{ cm}$
$m\angle K = \underline{\hspace{1cm}}^\circ$	$\overline{KL} = \underline{\hspace{1cm}} \text{ cm}$
$m\angle L = \underline{\hspace{1cm}}^\circ$	$\overline{JL} = \underline{\hspace{1cm}} \text{ cm}$
Classify Acute Right Obtuse	Classify Equilateral Isosceles Scalene

HOMEWORK

1. The **sum** of the measure of the angles of a triangle is equal to 180 degrees.

$$m\angle 1 + m\angle 2 + m\angle 3 = \underline{180}^\circ$$

2. How many degrees are in an acute angle? _____

3. How many degrees are in a right angle? _____

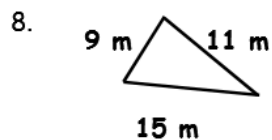
4. How many degrees are in an obtuse angle? _____

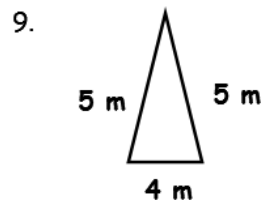
5. All triangles have **at least** 2 _____ angles. The third angle determines what type of triangle it is.

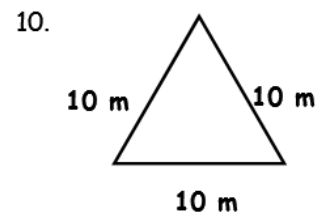
6. Can a triangle have 2 right angles? _____ Why or why not?

7. Can a triangle have 2 obtuse angles? _____ Why or why not?

Classify each triangle according to the lengths of its sides.

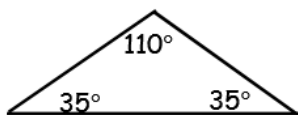




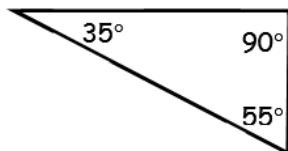


Classify each triangle according to the measure of its angles.

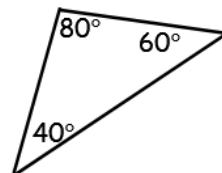
11.



12.



13.



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

14. 3cm, 3 cm, 3 cm

15. 7 m, 5 m, 8 m

16. 6 in, 2 in, 6 in

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

17. $30^\circ, 60^\circ, 90^\circ$

18. $42^\circ, 86^\circ, 52^\circ$

19. $110^\circ, 50^\circ, 20^\circ$
