

5-15-19

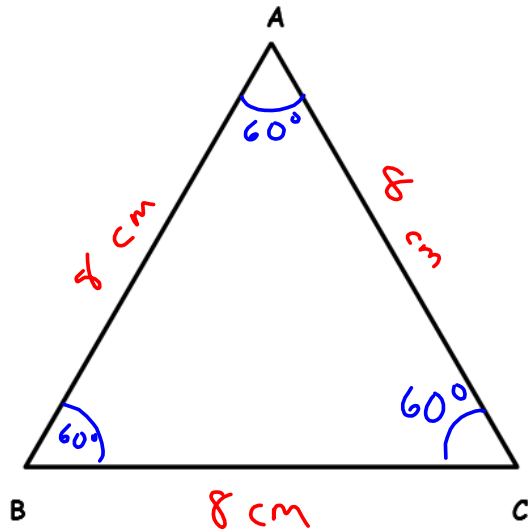
Aim: SWBAT discover the relationship between a triangle's side lengths and its angles.

HW: Packet Pages 15

Test Tuesday

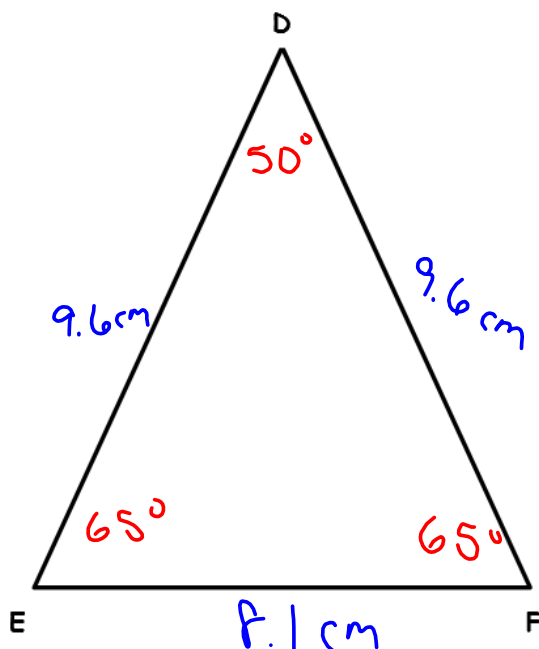
Do Now: Packet Pages 6 - 7

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.



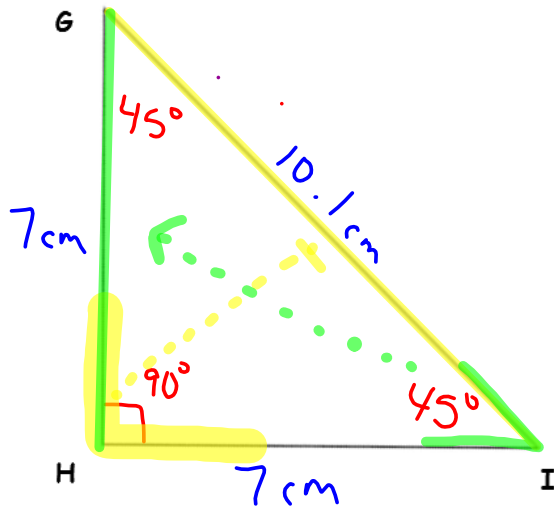
ANGLE MEASURES	SIDE LENGTHS
$m\angle A = 60^\circ$	$\overline{AB} = 8 \text{ cm}$
$m\angle B = 60^\circ$	$\overline{AC} = 8 \text{ cm}$
$m\angle C = 60^\circ$	$\overline{BC} = 8 \text{ cm}$
Classify <input checked="" type="radio"/> Acute <input type="radio"/> Right <input type="radio"/> Obtuse	Classify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

Total: 180°



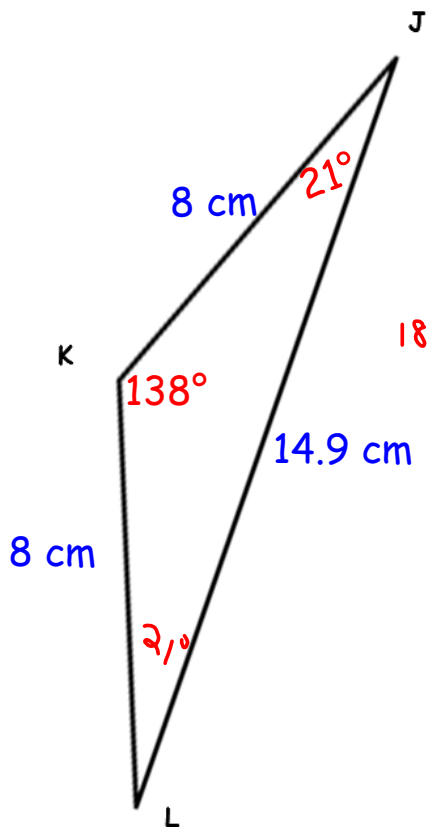
ANGLE MEASURES	SIDE LENGTHS
$m\angle D = 50^\circ$	$\overline{DE} = 9.6 \text{ cm}$
$m\angle E = 65^\circ$	$\overline{DF} = 9.6 \text{ cm}$
$m\angle F = 65^\circ$	$\overline{EF} = 8.1 \text{ cm}$
Classify <input checked="" type="radio"/> Acute <input type="radio"/> Right <input type="radio"/> Obtuse	Classify <input type="radio"/> Equilateral <input checked="" type="radio"/> Isosceles <input type="radio"/> Scalene

Total: 180°



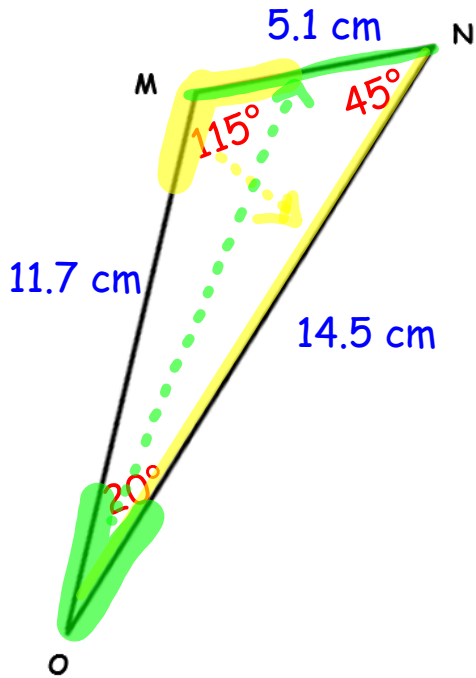
ANGLE MEASURES	SIDE LENGTHS
$m\angle G = 45^\circ$	$\overline{GH} = 7$ cm
$m\angle H = 90^\circ$	$\overline{GI} = 10.1$ cm
$m\angle I = 45^\circ$	$\overline{HI} = 7$ cm
Classify Acute Right Obtuse	Classify Equilateral Isosceles Scalene

Total: 180°



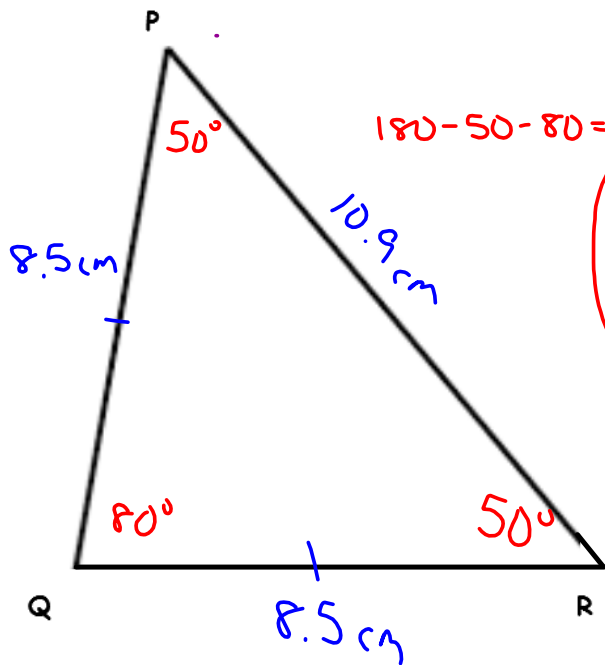
$138 + 21 = 159$
 $180 - 159 = 21$

ANGLE MEASURES	SIDE LENGTHS
$m\angle J = 21^\circ$	$\overline{JK} = 8$ cm
$m\angle K = 138^\circ$	$\overline{JL} = 14.9$ cm
$m\angle L = 21^\circ$	$\overline{KL} = 8$ cm
Classify Acute Right Obtuse	Classify Equilateral Isosceles Scalene



ANGLE MEASURES	SIDE LENGTHS
$m\angle M = 115^\circ$	$\overline{MN} = 5.1$ cm
$m\angle N = 45^\circ$	$\overline{MO} = 11.7$ cm
$m\angle O = 20^\circ$	$\overline{NO} = 14.5$ cm
Classify Acute Right Obtuse	Classify Equilateral Isosceles Scalene

Total: 180°



ANGLE MEASURES	SIDE LENGTHS
$m\angle P = 50^\circ$	$\overline{PQ} = 8.5$ cm
$m\angle Q = 80^\circ$	$\overline{PR} = 10.9$ cm
$m\angle R = 50^\circ$	$\overline{QR} = 8.5$ 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? between 0° and 90°
3. How many degrees are in a right angle? 90°
4. How many degrees are in an obtuse angle? between 90° and 180°
5. All triangles have **at least** 2 acute angles. The third angle determines what type of triangle it is.

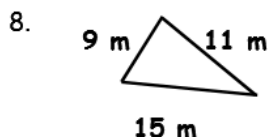
6. Can a triangle have 2 right angles? No Why or why not?

Two right angles total 180° . There wouldn't be any degrees left for a third angle.

7. Can a triangle have 2 obtuse angles? No Why or why not?

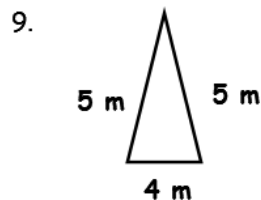
Two obtuse angles total to more than 180° . Triangles need exactly 180° .

Classify each triangle according to the lengths of its sides.



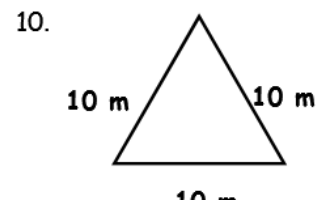
all different

Scalene



2 the same

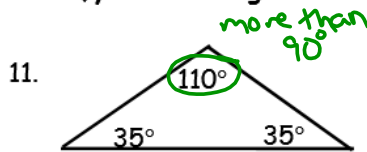
Isosceles



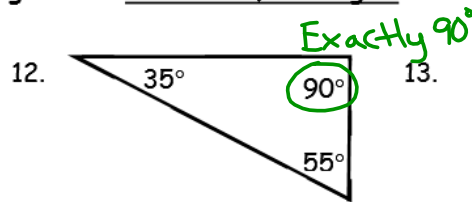
all the same

Equilateral

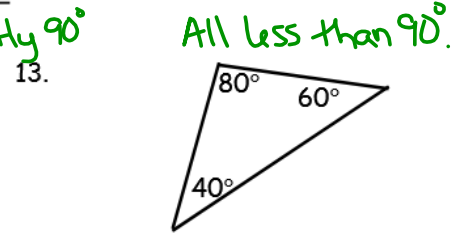
Classify each triangle according to the measure of its angles.



Obtuse

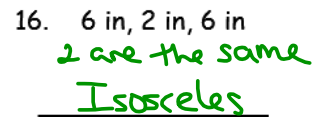
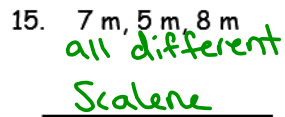
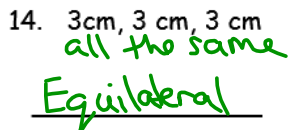


Right

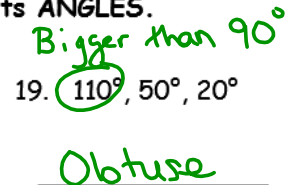
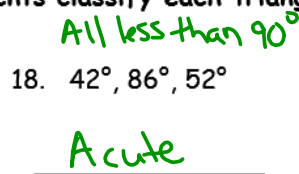
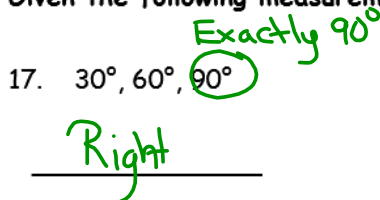


Acute

Given the following measurements classify each triangle by its SIDES.



Given the following measurements classify each triangle by its ANGLES.



Aim: SWBAT discover the relationship between a triangle's side lengths and angles.

Do Now: Use a word from the list that makes the statement true.

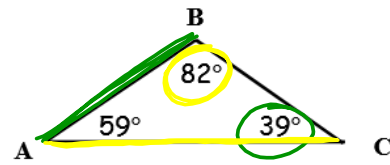
Largest	Longest	Smallest	Shortest
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- The side opposite the **largest** angle is the longest side.
- The side opposite the **smallest** angle is the shortest side.
- The angle opposite the **longest** side is the largest angle.
- The angle opposite the **shortest** side is the smallest angle.

5. Name the shortest and longest sides of the triangle.

Shortest Side - \overline{AB}

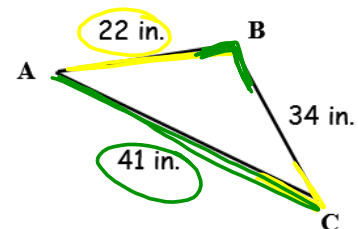
Longest Side - \overline{AC}



6. Name the smallest and largest angles of the triangle.

Smallest Angle - $\angle C$

Largest Angle - $\angle B$

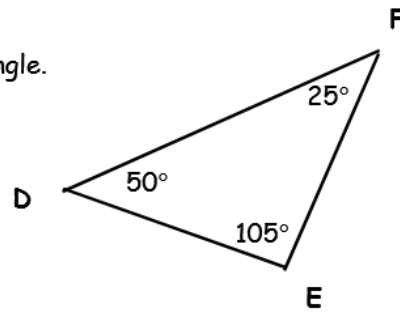


HOMEWORK

1. Name the shortest and longest sides of the triangle.

Shortest Side - _____

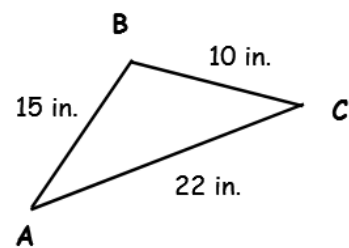
Longest Side - _____



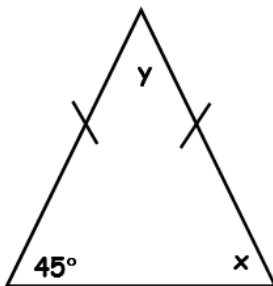
2. Name the smallest and largest angles of the triangle.

Smallest Angle - _____

Largest Angle - _____

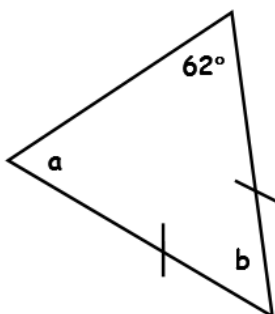


Use the following diagram to answer questions 3 - 6.



3. Find $m \angle x$. _____
4. Find $m \angle y$. _____
5. Classify the triangle by its sides.
6. Classify the triangle by its angles.

Use the following diagram to answer questions 7 - 10.



7. Find $m \angle a$. _____
8. Find $m \angle b$. _____
9. Classify the triangle by its sides.
10. Classify the triangle by its angles.