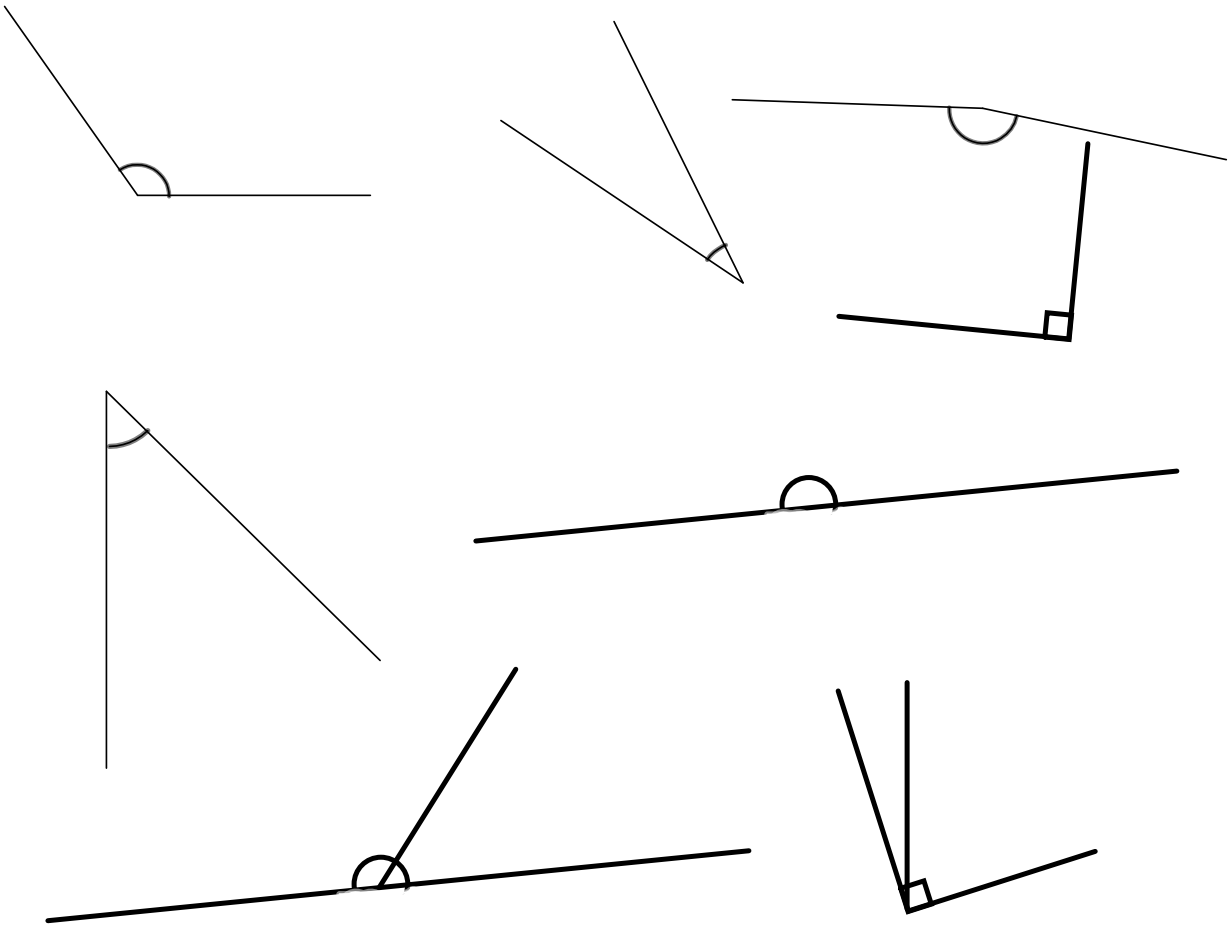
Angles & Triangles

Angle Review

Name these angles.

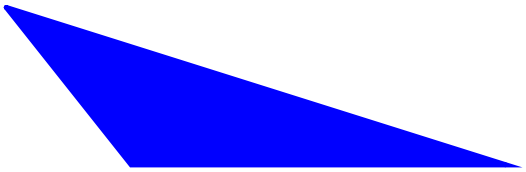


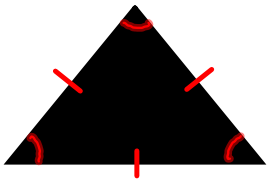
Triangle Review

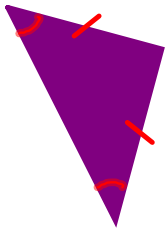
1) There are six different classifications for triangles.
   1) 2) 3)
   4) 5) 6)

2) The three angles of a triangle total what degree?

3) Name these triangles two different ways.





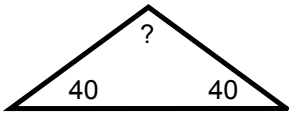


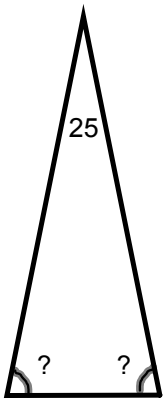
Using the construction paper triangle you were given,

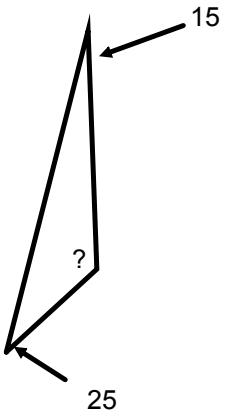
try to prove a triangle's angle measures can add up to 180 degrees.

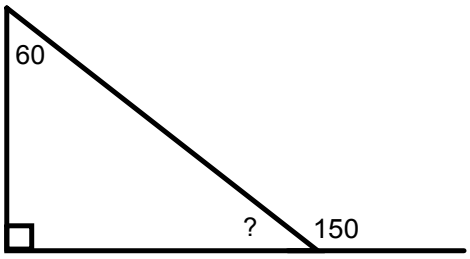
Angle Sums

The angles of a triangle total 180 degrees!
Lets find the missing angles!



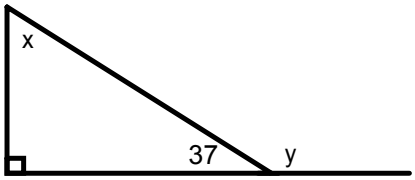


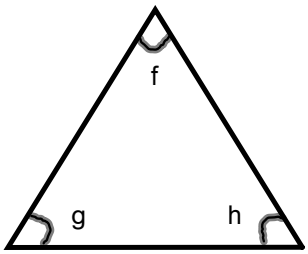


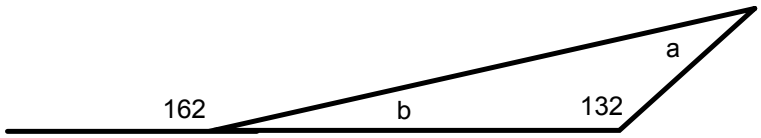


Angle Sums

Using your white board find the missing angles!



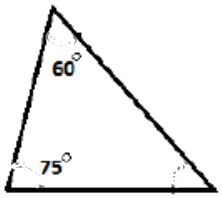




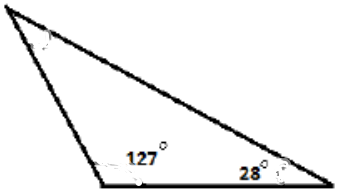
Homework

Name_____

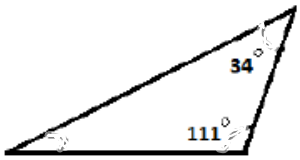
Missing Angle = _____



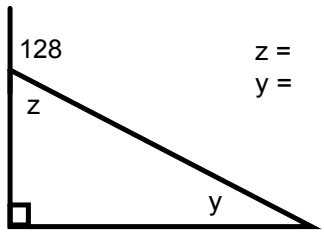
Missing Angle = _____



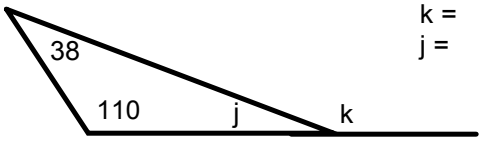
Missing Angle = _____



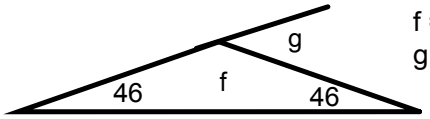
Missing Angle = _____



z =
y =



k =
j =



f =
g =

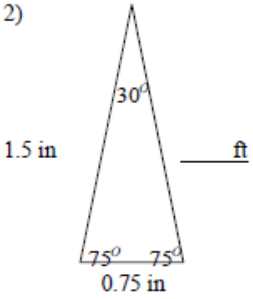
Bonus! (hint: use algebra)

x= _____
∠A= _____
∠B= _____
∠C= _____

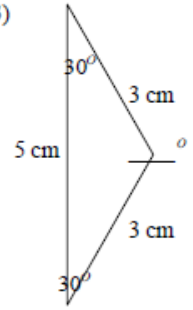
Triangle Review

1) An _____ is a triangle that has two sides that are the same length. The opposite angles are always the same measure in degrees also.
Like all triangles, the angles will all add up to _____.

2)



3)



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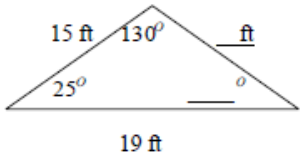
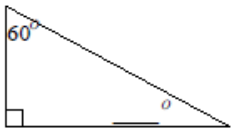
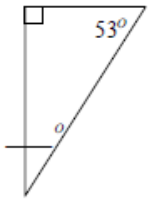


5) A _____ is a triangle that has a 90^{o} in it.
Like all triangles, the angles will all add up to _____.

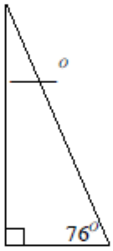
6)



7)

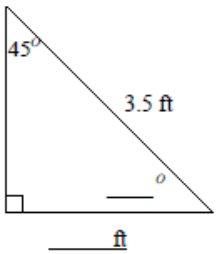


8)



9) An _____ is a triangle that has a 90^{o} in it, two of its sides are the same length, and two of its angles are congruent.
Like all triangles, the angles will all add up to _____.

10)



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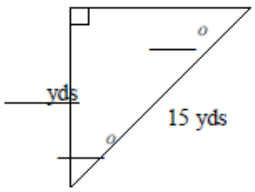

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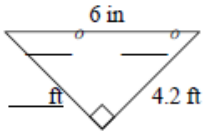


Get out your construction paper triangles from yesterday.

Using the torn pieces see what you can discover!

How can triangles be similar? congruent?

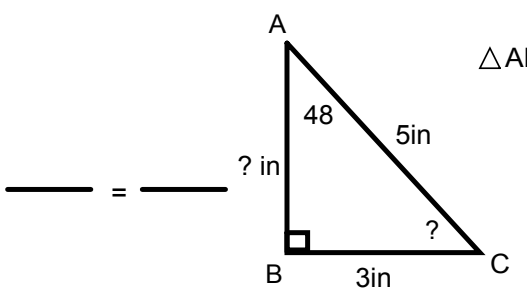
Similar & Congruent Triangles

What is the sign for congruent?

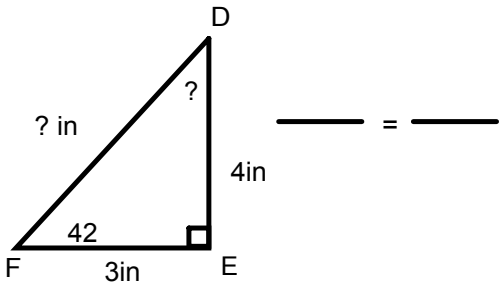
What is the sign for similar?

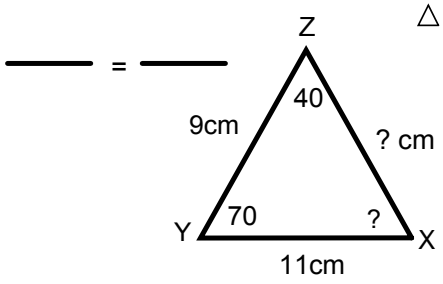
What do we know about congruent triangles?

What do we know about similar trianlges?

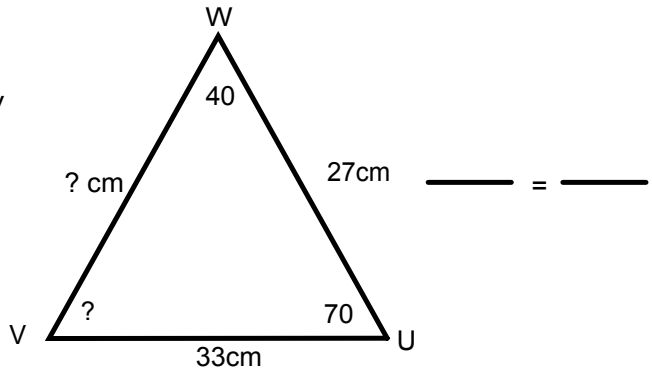


△ABC ≅ △DEF





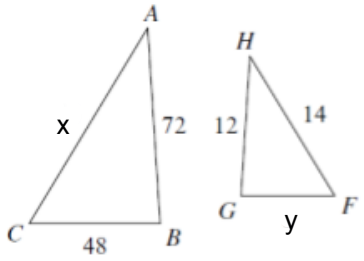
△ZYX ~ △WUV

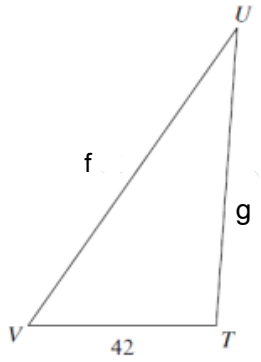


Similar & Congruent Triangles

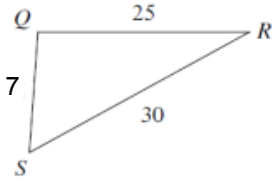
Using your white board find the missing angles!

△ABC~△HGF



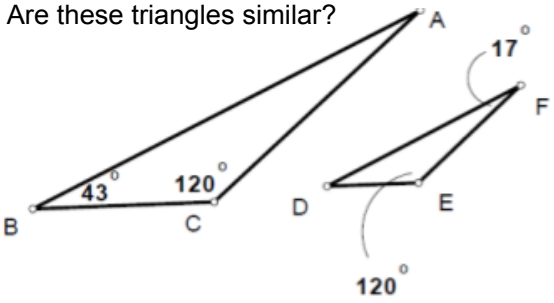


△TUV~△QRS

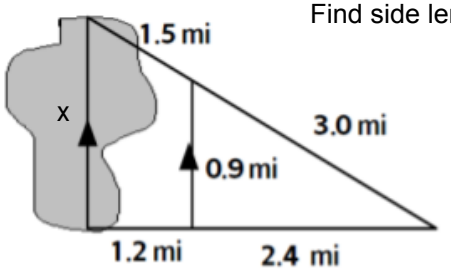


Homework

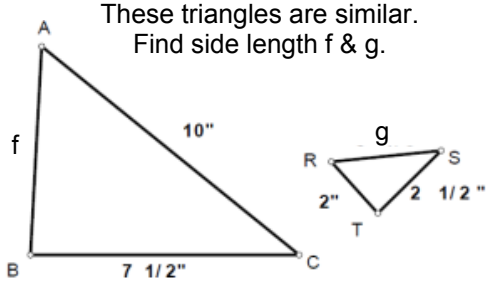
Are these triangles similar?

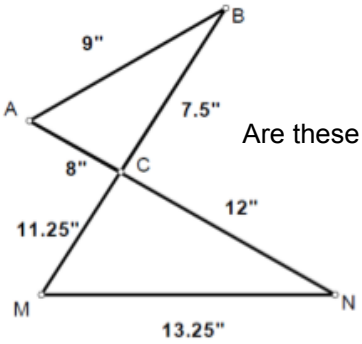


These triangles are similar.
Find side length x.



These triangles are similar.
Find side length f & g.





Are these triangles similar?

What does it take for two objects to be congruent?

-
-

What about a triangle?

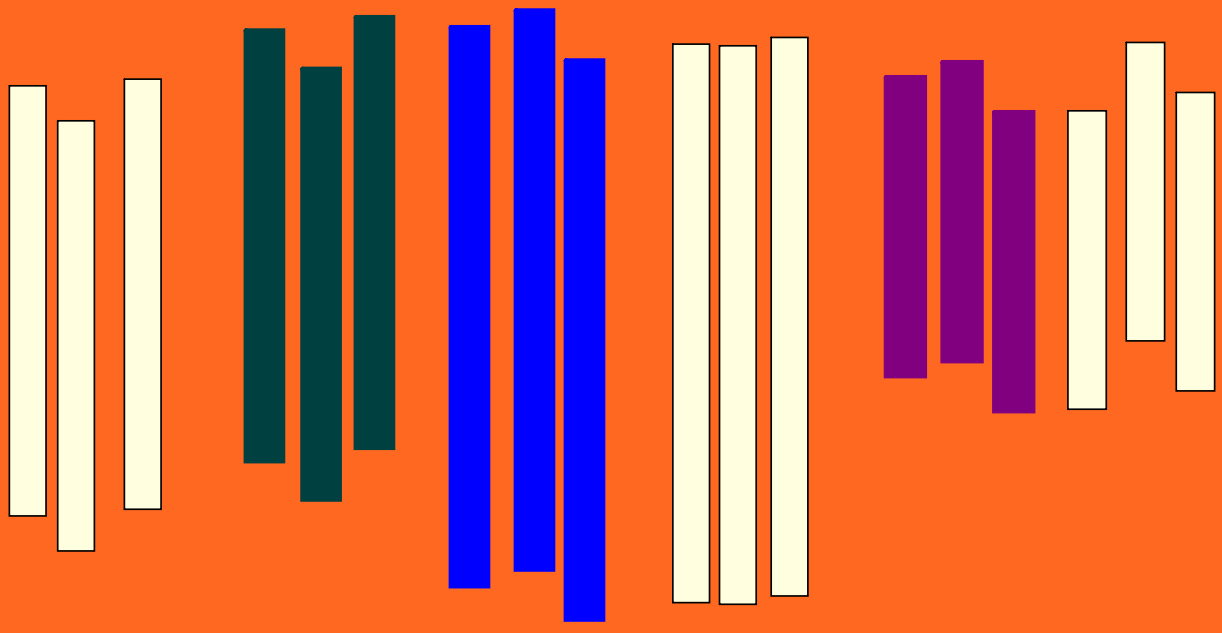
-
-

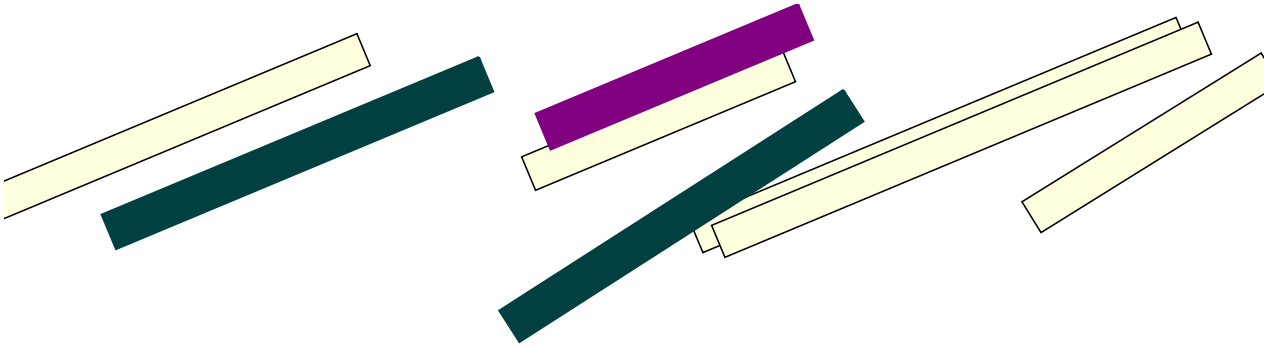
Do we have to know all these things at once?
Or can we just know a few to prove the rest?

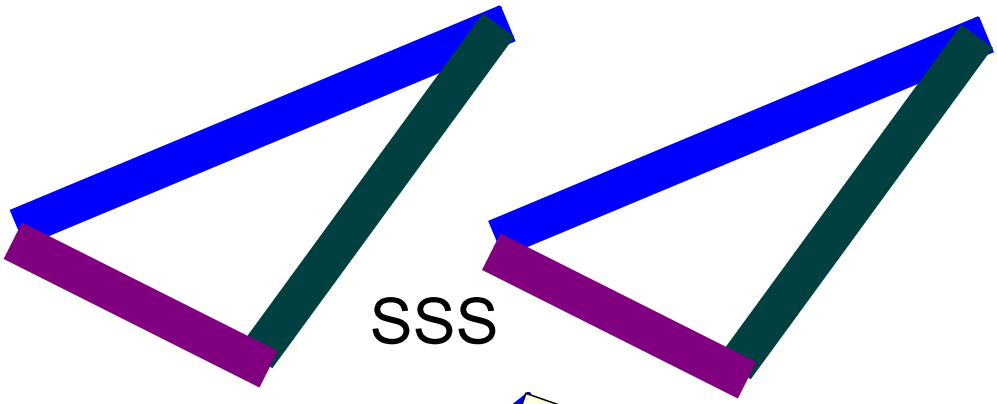
-
-

Lazy Lawrence Activity

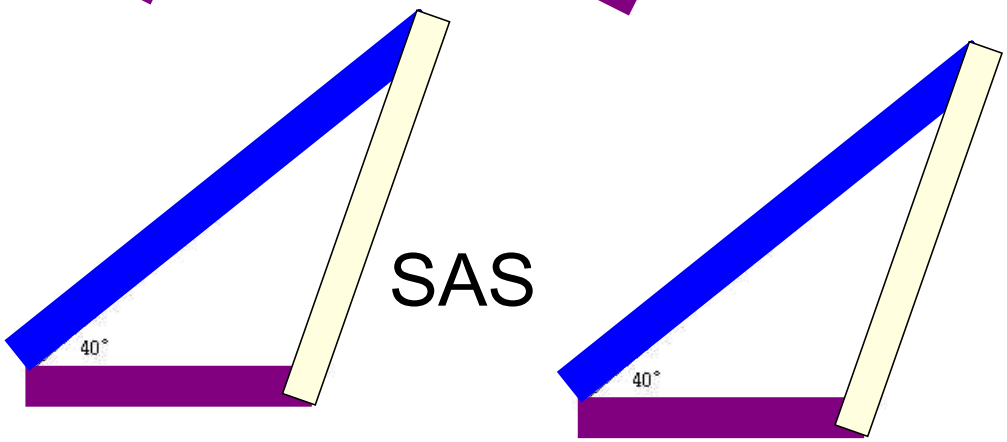
Lawrence works for a company that makes roof trusses, triangular pieces that support simple roofs. His job is to ensure that each and every roof truss that is made at the company is exactly the same size as all the others. Because Lawrence is so lazy and likes to avoid as much work as possible, he wants to find the easiest possible way to do his job. Help Lawrence find the easiest way to show that two triangular trusses are equal in measure with as little work as possible.



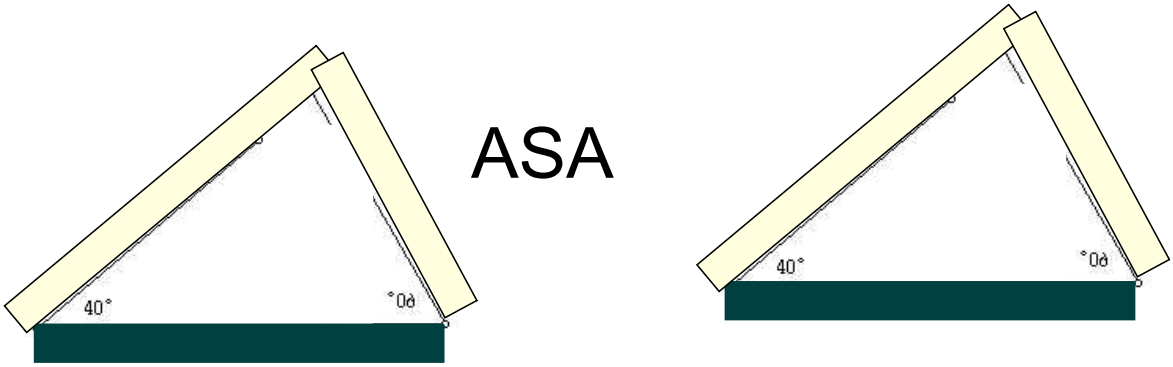




SSS



SAS

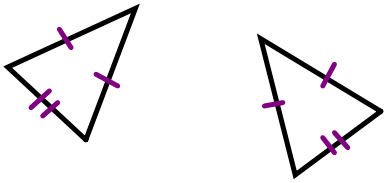


ASA

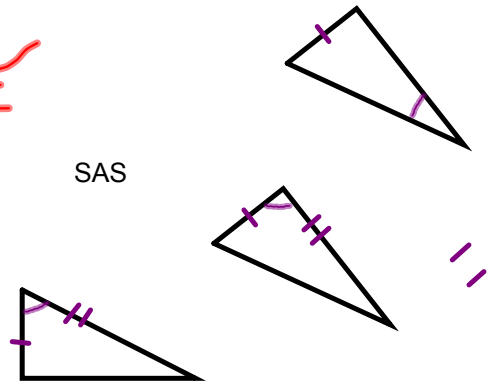
Special Congruent Triangles

What do these marks mean?

SSS

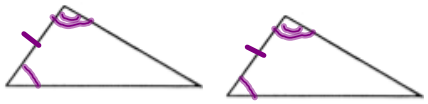


SAS



AAS

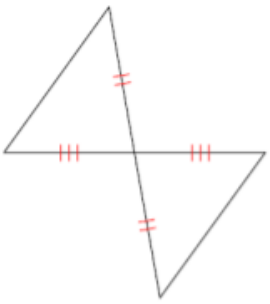
ASA



Special Congruent Triangles

Are these triangles congruent? If so by which statement.
Use your white boards to answer.

1



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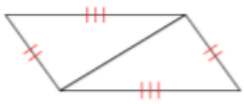

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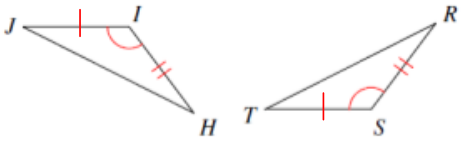

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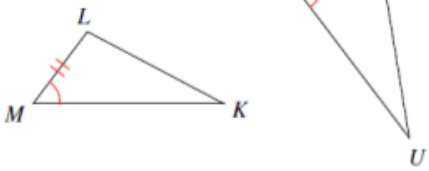

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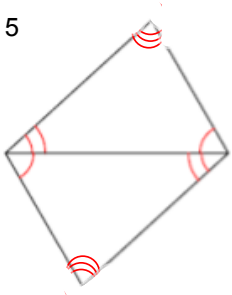
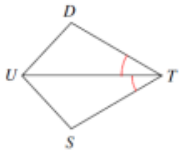


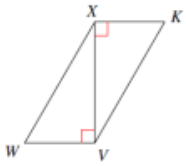
Special Congruent Triangles

Use your white boards to answer.
What else is needed?

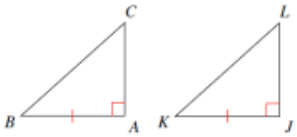
1 ASA



2 SAS



3 SAS



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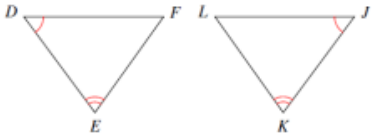
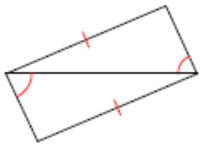


Homework

State if the two triangles are congruent. If so by which special congruency theorem. If not what could you do to the triangle to prove it using a special congruency theorem.

1)



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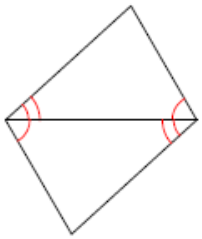

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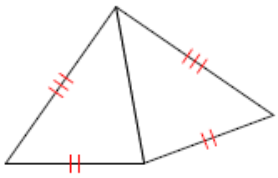

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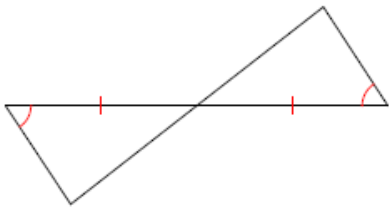

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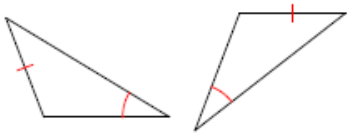

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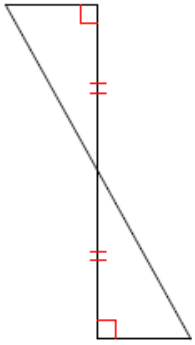

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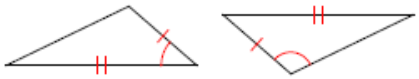

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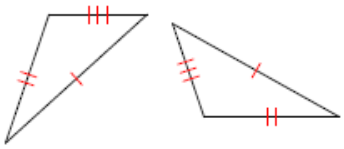
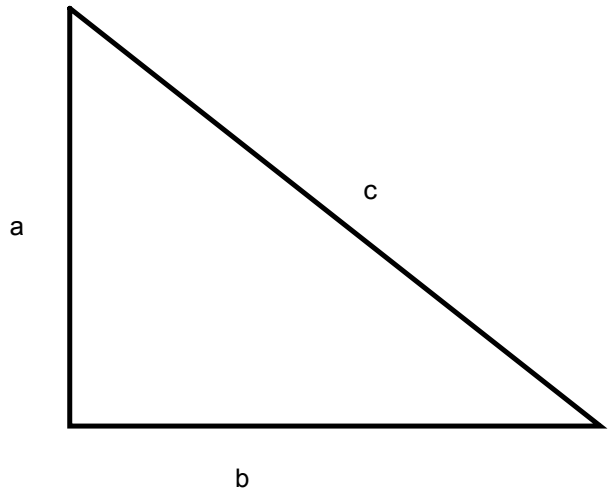
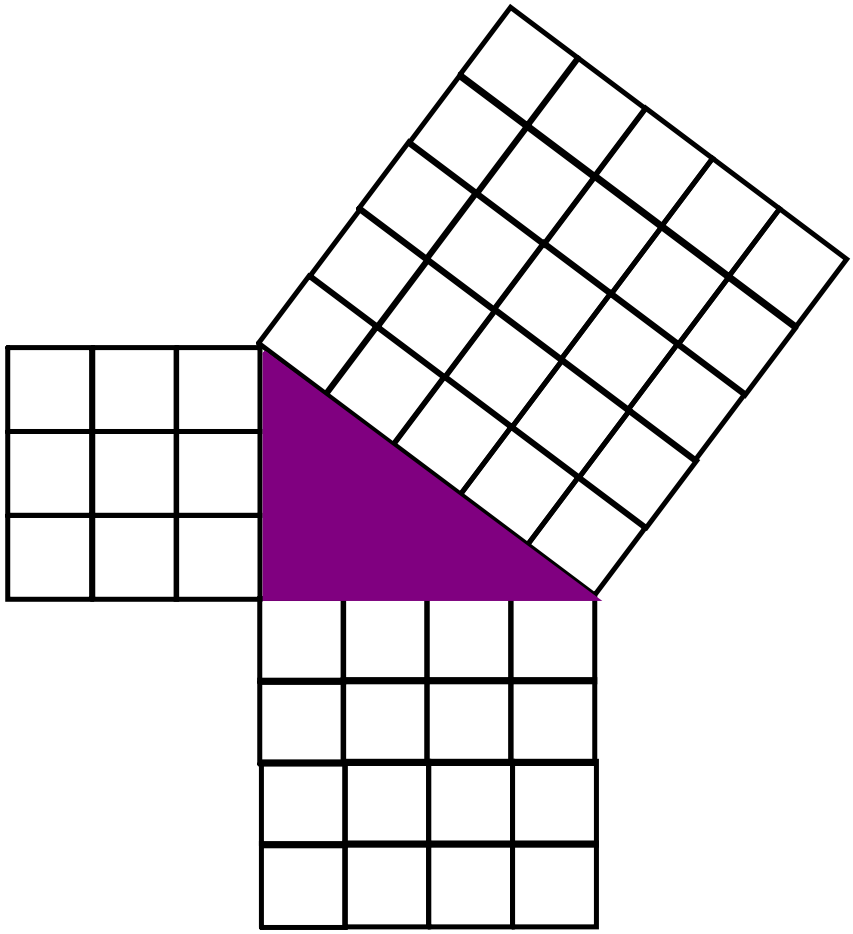


Pythagorean Theorem

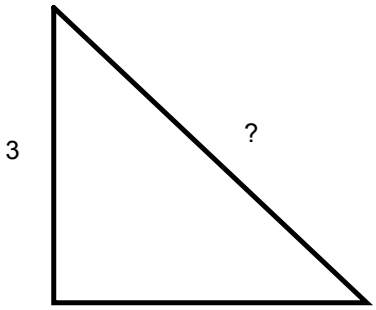
You can find a missing side length of a right triangle using the following formula.

$$a^2 + b^2 = c^2$$





Examples



$a^2 + b^2 = c^2$

$3^2 + 4^2 = c^2$

$9 + 16 = c^2$

$25 = c^2$

$\sqrt{25} = \sqrt{c^2}$

$5 = c$

$a^2 + b^2 = c^2$

$a^2 + 12^2 = 13^2$

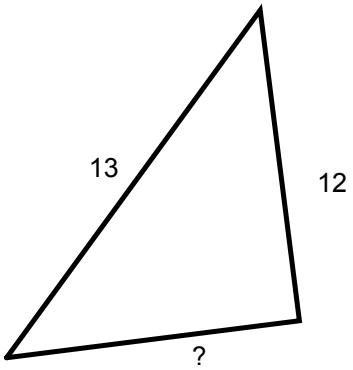
$a^2 + 144 = 169$

$-144 \quad -144$

$a^2 = 25$

$\sqrt{a^2} = \sqrt{25}$

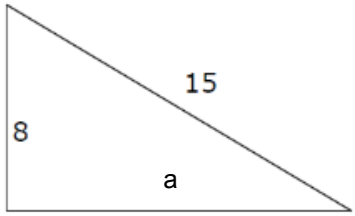
$a = 5$



Pythagorean Theorem

Using your white boards find the missing side length.

7.



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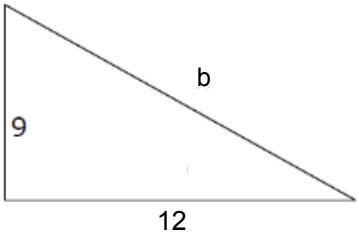

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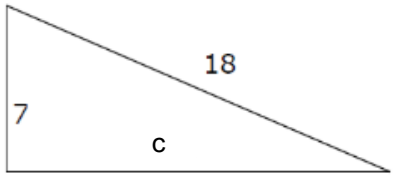

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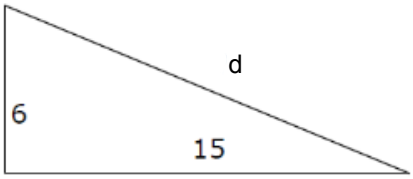
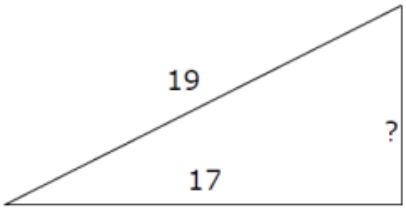


Homework

Use the Pythagorean Theorem to find the missing unit

1.



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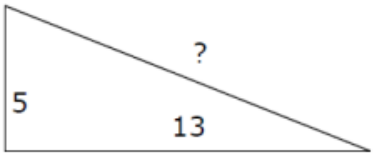

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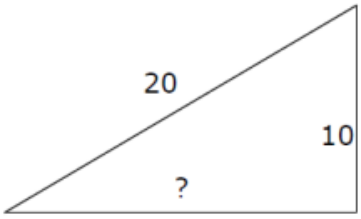

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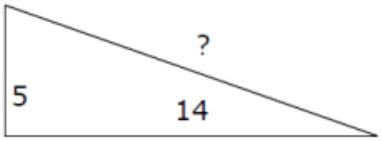

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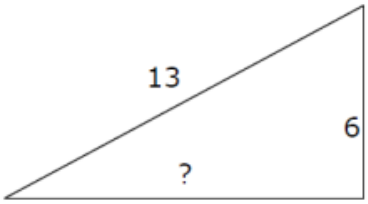
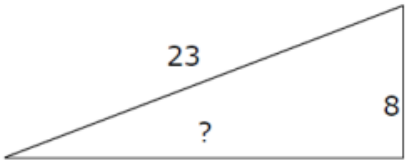
6.