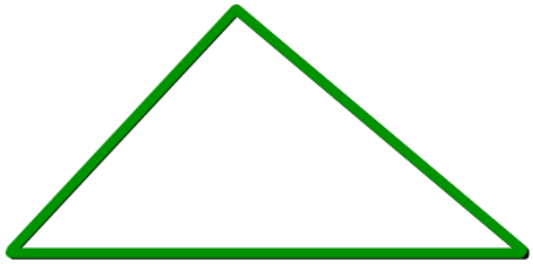
How many triangles can I create that have exactly the same 3 side measures?

or

Can I make a different triangle with these same sides?

Try it!



Conclusion:

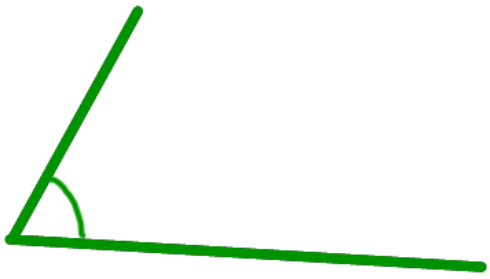
If I am given 3 sides, then I can create

_____ triangle(s).

Connect:

If two triangles have _____ exactly the same, then those triangles are congruent.

How many triangles can I create that have the same measures of 2 sides and the *included angle*?



Conclusion:

If I am given 2 sides and the *included angle*, then I can create

_____ triangle(s).

Connect:

If two triangles have _____ exactly the same, then those triangles are congruent.

How many triangles can I make if I am given the measures of 2 angles and the included side of the triangle?

You can change the length of the two short sides, but you can't change the bottom side of the 2 angles shown. Can you make more than 1 different triangle?

Conclusion:

If I am given 2 angles and the *included side*, then I can create

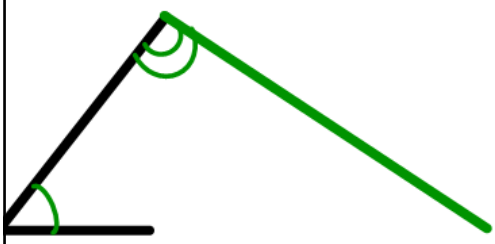
_____ triangle(s).

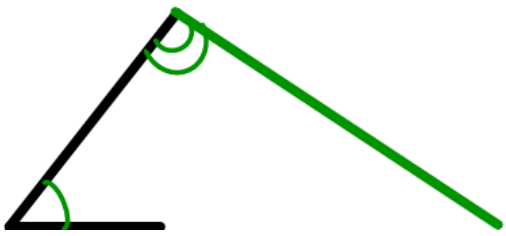
Connect:

If two triangles have _____ exactly the same, then those triangles are congruent.

How many triangles can I create if I am given the measures of 2 angles and a *non-included side* of a triangle?

In other words, we can change the black parts but not the green parts. How many different triangles can we create?





Conclusion:

If I am given 2 angles and a *non-included side*, then I can create

_____ triangle(s).

Connect:

If two triangles have _____ exactly the same, then those triangles are congruent.

Challenge:

Can I create more than 1 triangle if I am given all 3 angle measures and **no** side measures?