Challenge Question
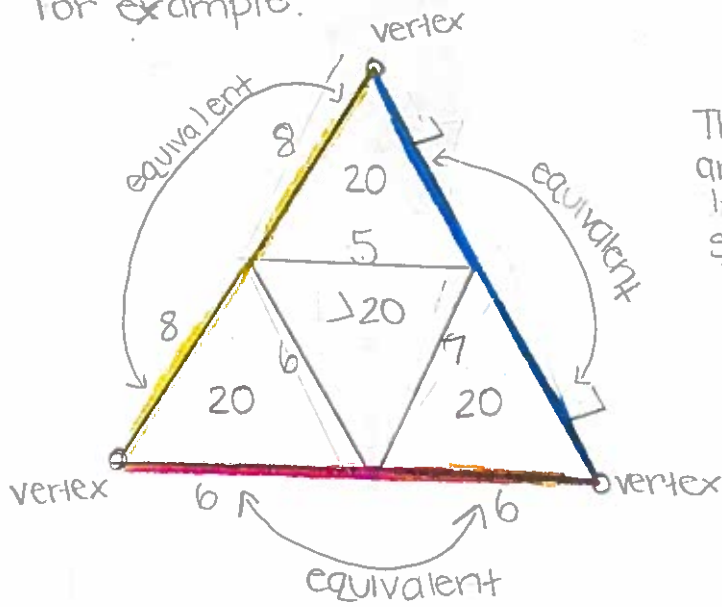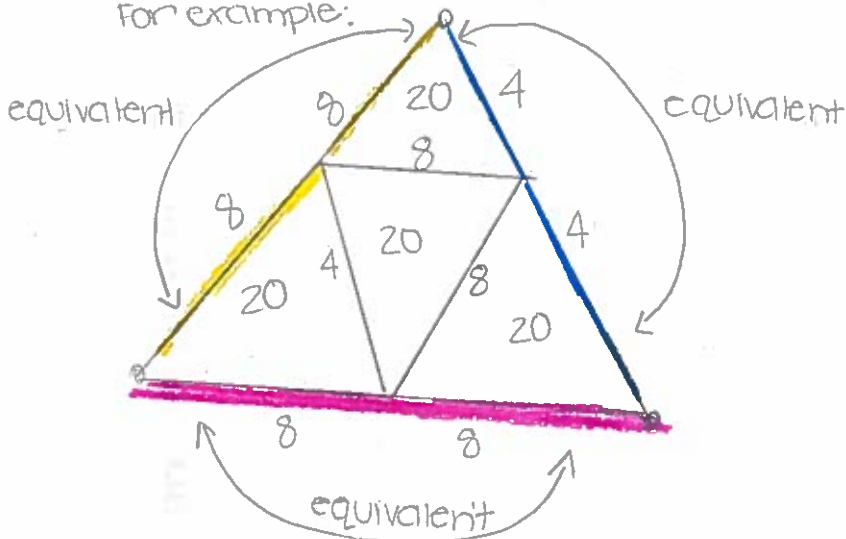
a) No, there cannot be an example where the triangles aren't congruent.
For example:

This occurs because all of the sides are equivalent (as shown with colours). If you are trying to get non-congruent sides you need each side to be different. Therefore, if you make different equations for each $\triangle$, the middle triangle will never equal 20 (if not using congruent triangles.

b) Yes, you can make more equations with congruent triangles.
For example:

This occurs because all of the sides are equivalent and that means that all of the sides (shown with colour) equal the same thing. Since the middle triangle is the same as the outer triangles, then this equation works.

ETC...