To prove that lines are parallel: (Next to a bubble/statement making a claim that lines are parallel)

* **If alternate interior angles are congruent, the lines are parallel.**
  + If you have parallel lines, alt. int. angles are congruent.
  + If alt. int. angles are congruent, the lines are parallel
  + When it is true forwards and backwards, then it is called a BICONDITIONAL.
* **If same-side interior angles are supplementary, then the lines are parallel**
* **If corresponding angles are congruent, then the lines are parallel.**

To prove that triangles are congruent (Next to a bubble/statement saying that two triangles are congruent):

1. SSS – all sides are the same

2. SAS

3. ASA

4. AAS

5. HL

To prove that a pair of angles or a pair of lines are congruent (usually after proving that two triangles are congruent):

* CPCTC: Corresponding parts of congruent triangles are congruent
* Congruent triangles 🡪 congruent parts
* **\*THIS usually comes right after proving triangles congruent\* - your next step**
* If you know the midpoint of a line, you can say the two segments are congruent (half and half)
  + The reason is simply “definition of a midpoint”
* If you know that a line BISECTS another line OR bisects an angle, you can say the two halves of the line or angle being bisected are the same
  + The reason – “definition of a bisector”
* This would come right after saying TRIANGLES are congruent:
  + CPCTC: Corresponding parts of congruent triangles are congruent
  + Congruent triangles 🡪 congruent parts
* MIDPOINT: If you know the midpoint of a line, then you can say the two segments are congruent
  + “Definition of a midpoint” 🡪 reason that you use
* BISECTORS: If you know that a line bisects another line OR an angle, it breaks it up into two equal parts
  + You claim the parts are congruent 🡪 Definition of a bisector