

Geometry

Unit One B: Is It Enough??? (G.CO.8)


Name: _____

Date: _____ Period: _____

Objective: Determine what minimal amounts of information are required for triangles to be congruent.

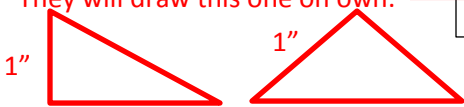
For each task below, you are to open the listed file and decide if the given information used to construct the triangles is enough to ensure that congruent (same size, same shape) triangles occur. In other words, you need to try to move the shapes around the screen and decide if two triangles are always congruent or sometimes different (not congruent).

#1 & 2 as Opener?

1. **Criteria:** (a) A 50° angle **Drawing:** They will draw this one on own.  ~~A~~

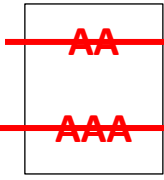
Triangles: Always the same → Enough information to ensure congruent

Or
Sometimes different → Not enough information to ensure congruent

2. **Criteria:** (a) A 1 inch side **Drawing:** They will draw this one on own.  ~~S~~

Triangles: Always the same → Enough information to ensure congruent

Or
Sometimes different → Not enough information to ensure congruent

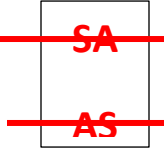
3. **File Name:** #1 - 2 angles 

Criteria: (a) A 50° angle (b) A 60° angle

Triangles: Always the same → Enough information to ensure congruent

Or
Sometimes different → Not enough information to ensure congruent

Think: Would knowing three pairs of angles change your answer? Why or why not?
No, technically knowing 2 angles means that all three are known because the third must be whatever is left to cause the triangle to add up to 180° overall.

4. **File Name:** #2 - 1 side 1 angle 

Criteria: (a) A 90° angle (b) A 2 inch side

Triangles: Always the same → Enough information to ensure congruent

Or
Sometimes different → Not enough information to ensure congruent

Think: If the side was somewhere else in the triangle, would your answer change? Why or why not?
No, there would still be too much flexibility and multiple triangles could be formed.

5. **File Name:** #3 – 2 sides ~~SS~~
- Criteria:** (a) A 2 inch side (b) A 3 inch side
- Triangles:** Always the same → Enough information to ensure congruent
Or
Sometimes different → Not enough information to ensure congruent
6. **File Name:** #4 – 1 angle (included) and 2 sides SAS
- Criteria:** (a) A 3 inch side (b) A 2 inch side (c) A 45° angle between the sides
- Triangles:** Always the same → Enough information to ensure congruent
Or
Sometimes different → Not enough information to ensure congruent
7. **File Name:** #5 – 1 angle (not included) and 2 sides ~~SSA~~
- Criteria:** (a) A 3 inch side (b) A 2.5 inch side (c) A 45° angle not between the sides
- Triangles:** Always the same → Enough information to ensure congruent
Or
Sometimes different → Not enough information to ensure congruent
8. **File Name:** #6 – 3 sides SSS
- Criteria:** (a) A 2 inch side (b) A 3 inch side (c) A 4 inch side
- Triangles:** Always the same → Enough information to ensure congruent
Or
Sometimes different → Not enough information to ensure congruent
9. **File Name:** #6 – 1 side 2 angles ASA
AAS
- Criteria:** (a) A 2 inch side (b) A 70° angle (c) A 25° angle
- Think:** There are four triangles in this file. Are the side and angles arranged in the same way for all four triangles? Why or why not?
No, in 2 the side is included between the angles that are given and in the other, the side is not included between the angles that are given.
- Triangles:** Always the same → Enough information to ensure congruent (if arranged same way)
Or
Sometimes different → Not enough information to ensure congruent