

FLE - Congruence, Similarity, & Enlargement Project - 2025

Name: _____

FLE Class: _____

Teacher: _____

Part A – Matching definitions

Draw a line to match the definition to the abbreviation

If three sides are the same the triangles will be congruent
If both triangles are right-angled and have the same hypotenuse and a non-included side the triangles will be congruent
If two sides and the angle between them (the 'included angle') are the same the triangles will be congruent
If two angles and the side between them are the same, the triangles will be congruent

ASA
RHS
SSS
SAS

Part B – Congruence test labels

Label each pair of triangles with the appropriate congruence test.

SSS

Side, side, side

All three sides are the same length

ASA

Angle, side, angle

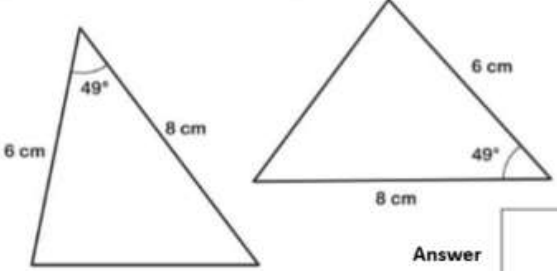
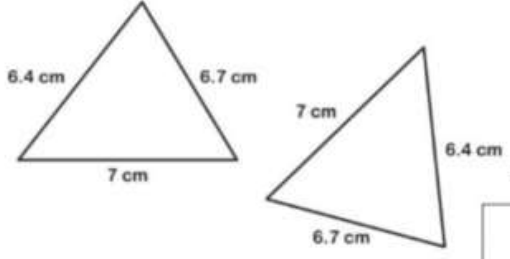
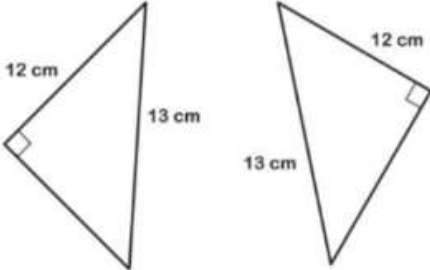
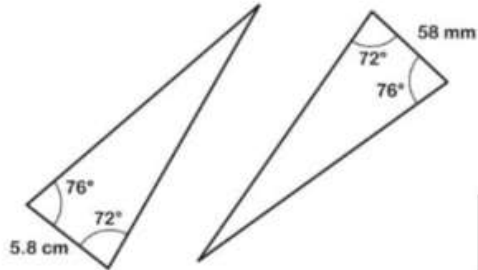
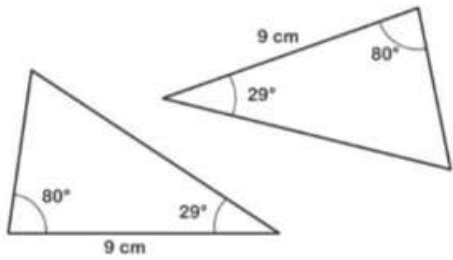
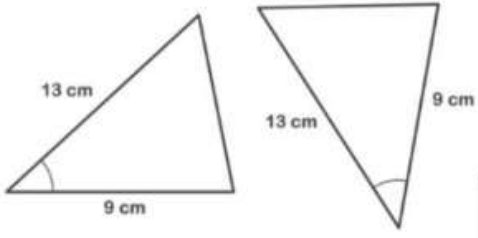
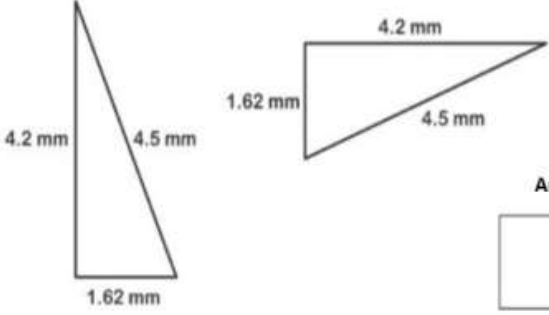
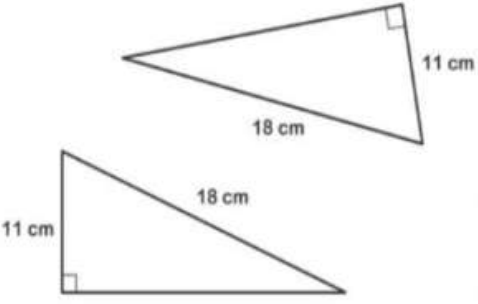
Two angles and an included side are equal

SAS

Side, angle, side Two sides and an included angle are equal

RHS

Right angle, hypotenuse and side
Hypotenuse and one of the shorter sides are equal

 Answer	 Answer
 Answer	 Answer
 Answer	 Answer
 Answer	 Answer

PART C – Paper Airplane Design

Designed and construct a paper airplane and identify four sets of congruent triangles and justify them with congruence tests/theorem.

Method:

- 1) Precisely fold your blank A4 into an airplane
- 2) Open completely and label all paired triangles with vertices
- 3) Also label angles and sides relating to your rules
- 4) Colour code your congruent triangles
- 5) Complete triangle set blanks below (e.g. Angle ABC = DEF)
- 6) Hand in your airplane with project

Congruent Triangles Set 1

Color: _____

Δ _____ $\cong$ Δ _____

Theorem: _____

Congruent Triangles Set 3

Color: _____

Δ _____ $\cong$ Δ _____

Theorem: _____

Congruent Triangles Set 2

Color: _____

Δ _____ $\cong$ Δ _____

Theorem: _____

Congruent Triangles Set 4

Color: _____

Δ _____ $\cong$ Δ _____

Theorem: _____

PART D – Drawing congruent triangles and similar shape

- 1) Using the grid paper provided, draw 4 identical pairs of triangles to represent each congruence test
 - SSS, ASA, SAS, & RHS
 - Each triangle should reflect the other.
 - Label each triangle with necessary side length and angle degrees
- 2) Draw 1 small and 1 enlarged shape to show a similarity (Orange)
 - The similar shape should show a **line of symmetry down the middle**.
 - Label each shape with necessary side length and angle degrees
- 3) Fold grid paper in half to with identically **reflected shapes** to demonstrate the congruence of your triangles and a **line of symmetry** for your similar shape.

Part D - Drawings

