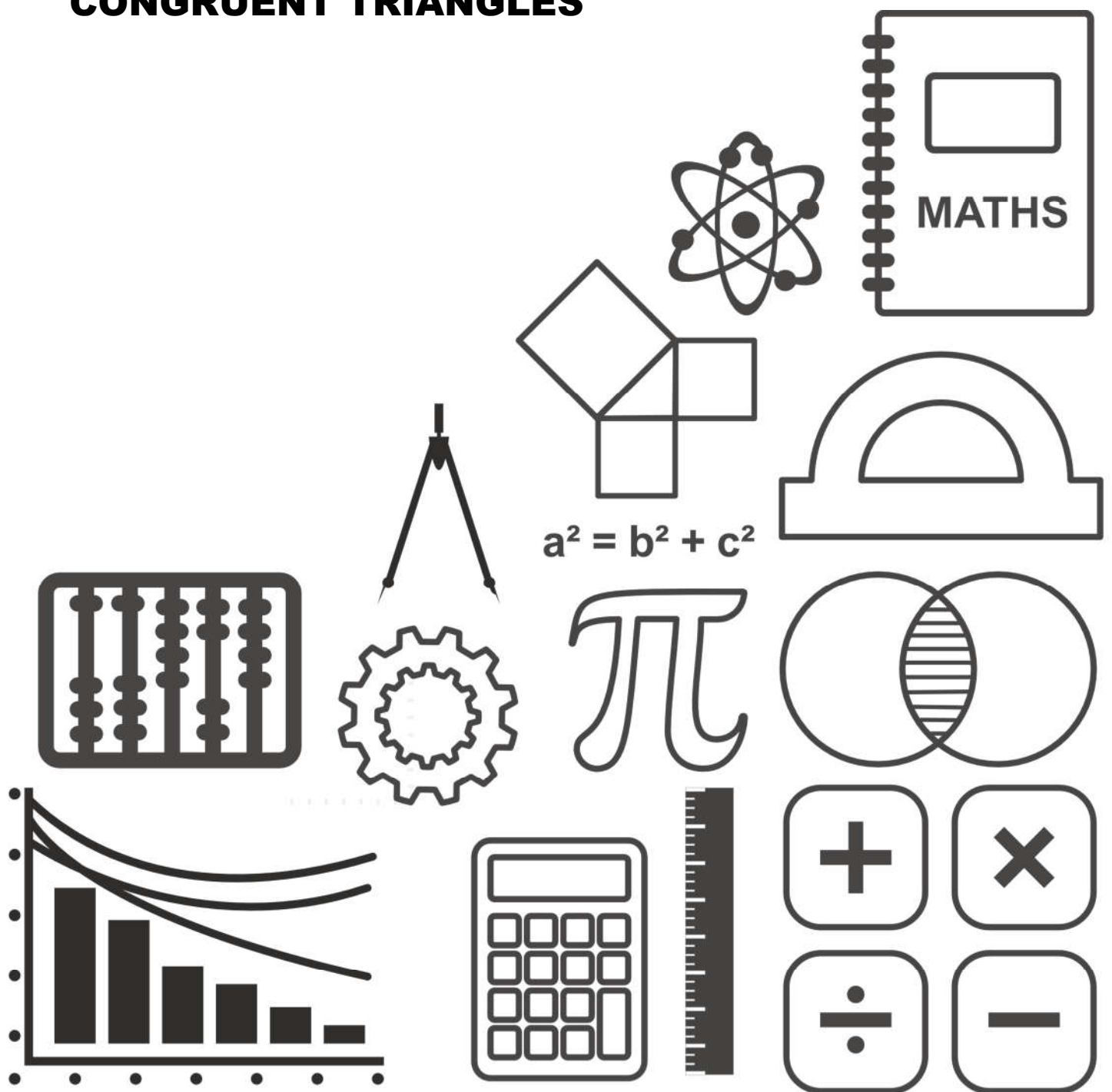
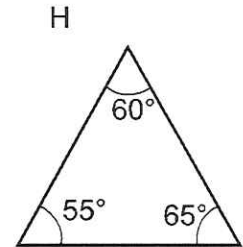
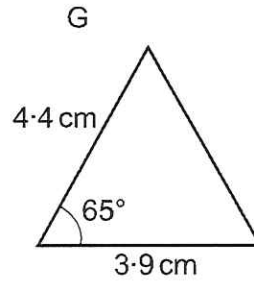
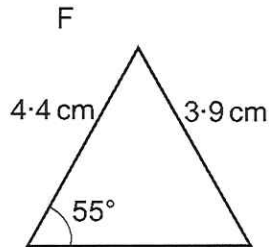
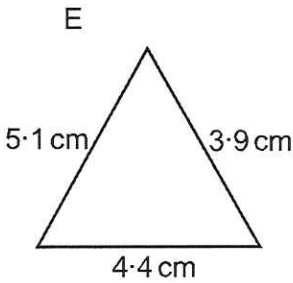
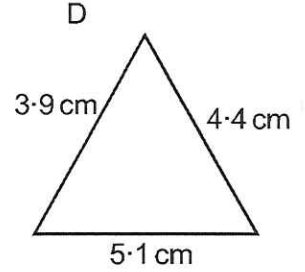
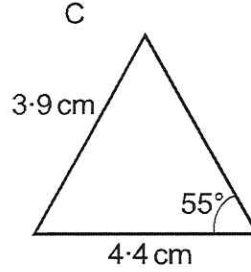
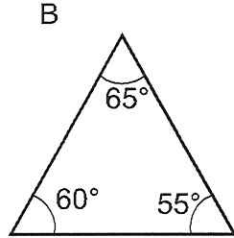
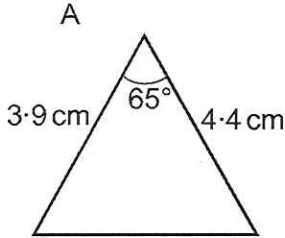


GCSE TOPIC BOOKLET CONGRUENT TRIANGLES



1 . In the diagrams below, only two pairs of triangles are **definitely** congruent. Identify the two pairs. In each case, state the condition of congruency.

[4]



Diagrams not drawn to scale

Triangle is congruent to triangle

Condition of congruency:

.....

Triangle is congruent to triangle

Condition of congruency:

.....

2.

The diagrams below show pairs of congruent triangles.
The diagrams are drawn to scale.

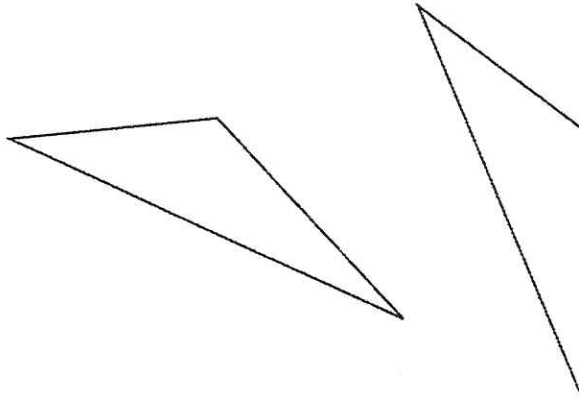
Anwen has made a statement about each of the pairs of triangles.

- (a) "Look, I have measured two of the sides and one of the angles in each triangle. I have enough information to say that the triangles are congruent."

For the statement to be correct, indicate on each triangle the two sides and one angle Anwen could have measured.

Indicate clearly the corresponding sides.

Do not mark any extra detail.

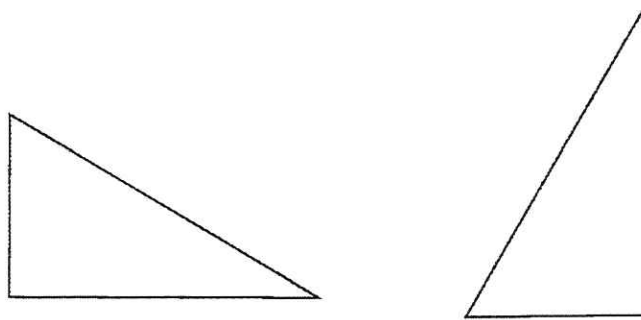


[2]

- (b) "Look, I have measured one angle in each triangle and found that they each measured 90° . Then, I measured the hypotenuse of each triangle and found that they were equal."

Indicate on each triangle

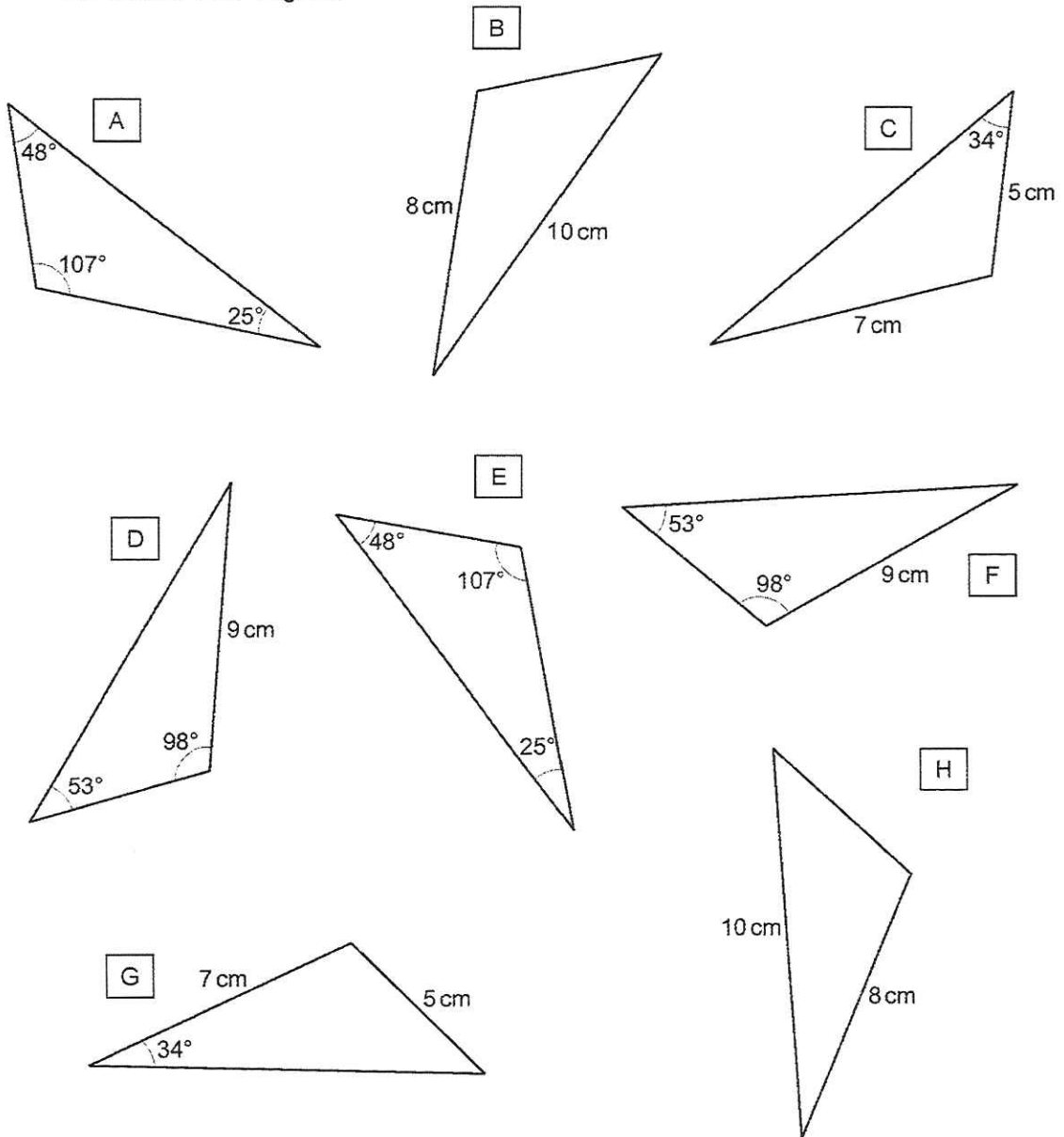
- the mathematical information given in Anwen's statement, and
- mark the **minimum** extra detail required to show that the triangles are congruent.



[2]

3.

The eight triangles below have not been drawn to scale. Some information about the lengths of the sides or the sizes of the internal angles have been included on each diagram.



Diagrams not drawn to scale

Using only the information given, state which 2 triangles are congruent and give the condition of congruency. [2]

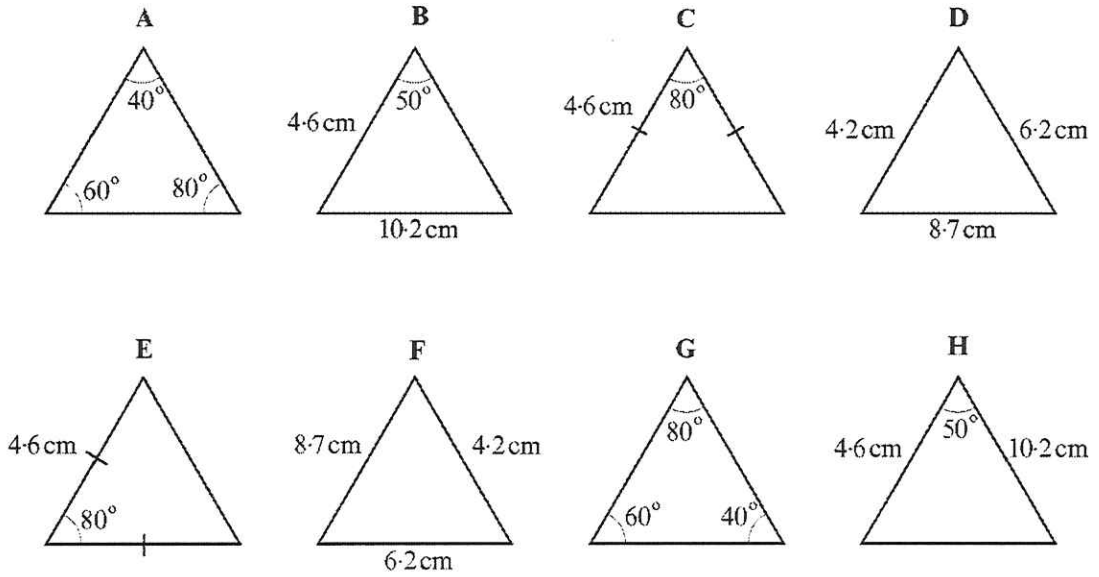
The congruent triangles are and

The condition of congruency is:

.....

4.

Select two different pairs of congruent triangles from the diagrams below.
Give a reason why each of the pairs of triangles are congruent.



Diagrams not drawn to scale

Triangle is congruent to triangle

Reason

.....
 [2]

Triangle is congruent to triangle

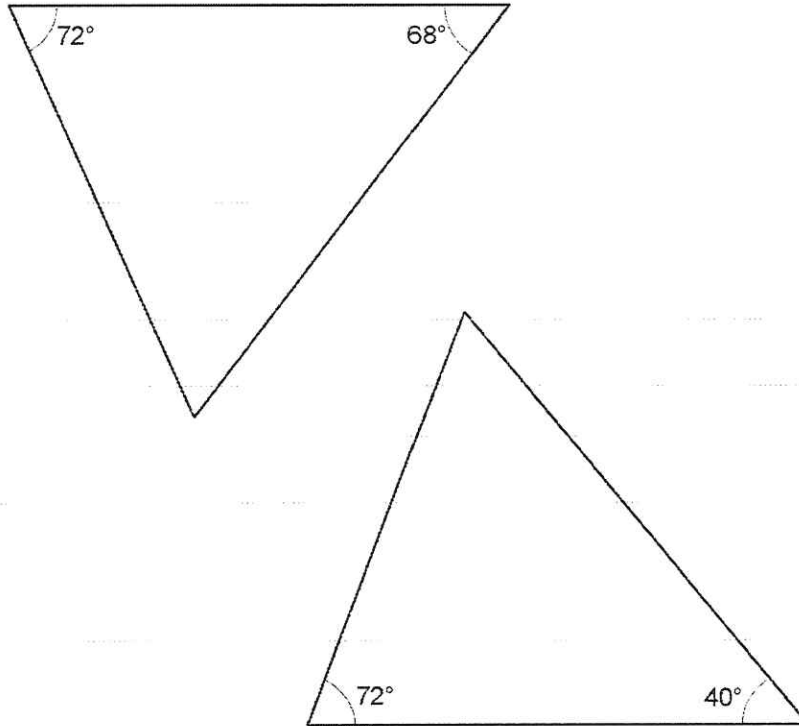
Reason

.....
 [2]

5.

The two triangles drawn below are not drawn to scale.
 Thomas says the triangles are similar but not necessarily congruent.
 Is Thomas correct or not?
 Explain your answer.

[3]



Diagrams not drawn to scale

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6.

Triangle ABC is an isosceles triangle with $\hat{A}BC = \hat{A}CB$.

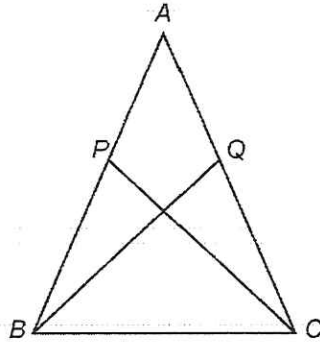


Diagram not drawn to scale

P and Q are points on AB and AC respectively such that $AP = AQ$.

Prove that triangle ABQ is congruent to triangle ACP .
You must give reasons for each step of your proof.

[4]

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7.

The diagram shows a rectangle $ABCD$.

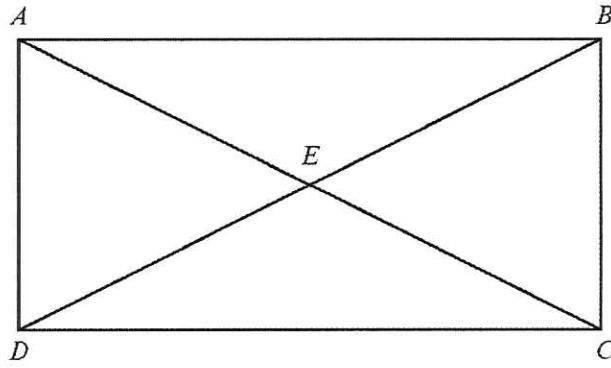


Diagram not drawn to scale

Select 3 **different** pairs of congruent triangles shown in the diagram above and then complete the sentences below for your 3 selections.

Triangle is congruent to triangle

Triangle is congruent to triangle

Triangle is congruent to triangle

[3]