

Higher Maths Nov 2017 P1 Q1

Look at the following descriptions of special quadrilateral shapes.
Circle the correct name for each one.

- (a) Its diagonals intersect at 90° .
Only one diagonal is a line of symmetry. [1]

Kite Rhombus Square Trapezium Rectangle

- (b) Only one pair of sides are parallel. [1]

Kite Rhombus Square Trapezium Rectangle

- (c) All four sides are equal.
Its diagonals are not equal in length. [1]

Kite Rhombus Square Trapezium Rectangle

Higher Maths Sample 2 P2 Q2

Circle either TRUE or FALSE for each statement given below.

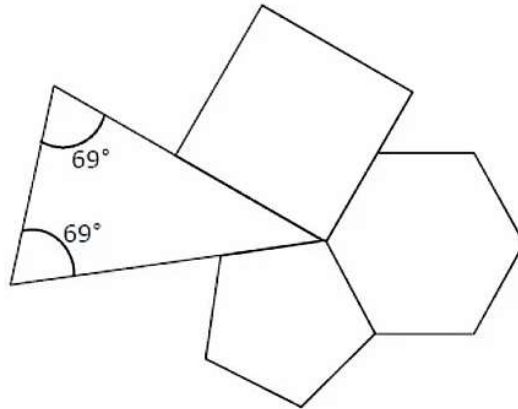
[2]

STATEMENT		
Circles with diameters of equal length are congruent.	TRUE	FALSE
Regular pentagons whose perimeters are of equal length are congruent.	TRUE	FALSE
Scalene triangles that have the same three angles are congruent.	TRUE	FALSE
Rectangles with equal areas are congruent.	TRUE	FALSE

4. You will be assessed on the quality of your organisation, communication and accuracy in writing in this question.

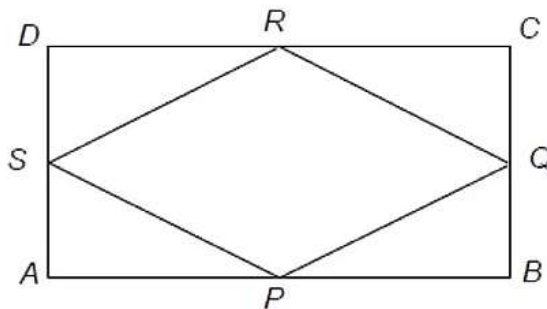
Prove that it is possible for a square, a regular pentagon, a regular hexagon and an isosceles triangle with two equal angles of 69° to meet at a point as shown below.

[6 + OCW 2]



Higher Maths Sample 1 P2 Q11

$ABCD$ is a rectangle. P , Q , R and S are the mid-points of the sides.



(a) Prove that triangles APS and CRQ are congruent. [3]

(b) Use your proof in part (a) to decide what is the special name given to the quadrilateral $PQRS$.
Give your reason. [1]

In the following diagram, AE and BD are straight lines and $BC = CE$.

Is it possible to conclude that triangles ABC and DEC are congruent?
You must show all your working and explain your decision.

[2]

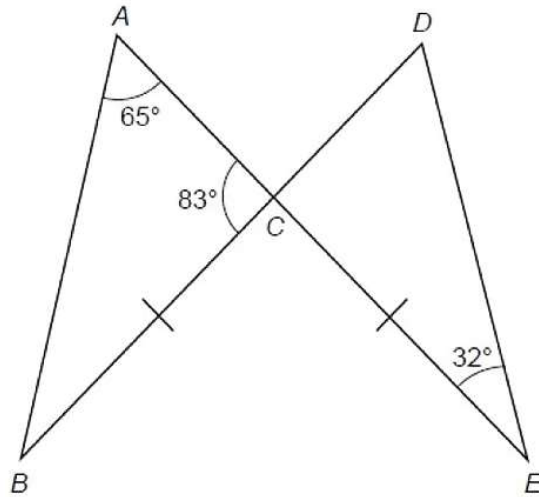
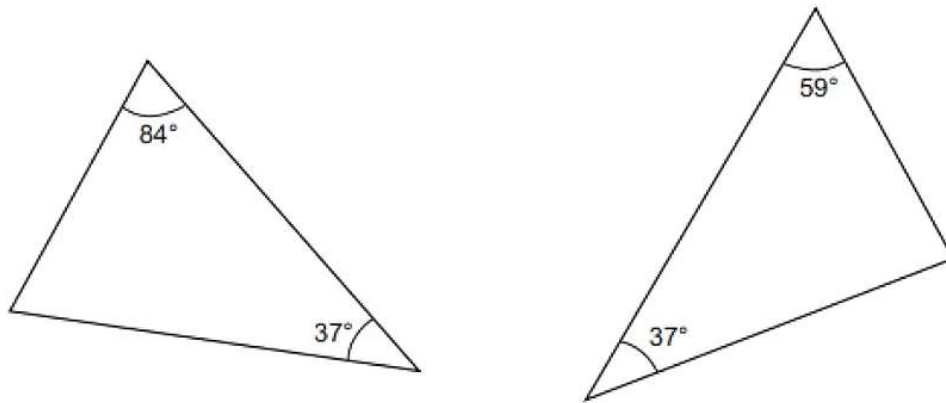


Diagram not drawn to scale

Higher Maths Nov 2017 P1 Q14

The two triangles shown below are not drawn to scale.



Which **one** of the following statements is correct?
Give full reasons for your answer.

[2]

A: the triangles must be congruent
B: the triangles could be congruent
C: the triangles cannot be congruent

Higher Maths June 2017 P1 Q14

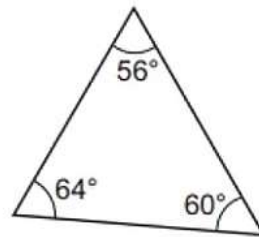
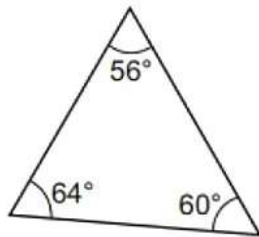
SSS, SAS, ASA and RHS are notations used to describe the conditions required to prove that two triangles are congruent.

[S \equiv Side, A \equiv Angle, R \equiv Right angle and H \equiv Hypotenuse.]

The following triangles are **not** drawn to scale.

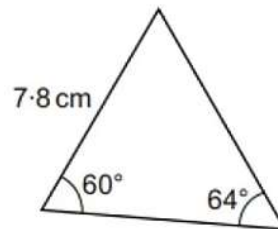
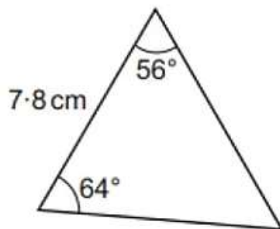
For each pair of triangles, circle the correct statement.

(a)



[1]

(b)



[1]

congruent:
SSS

congruent:
SAS

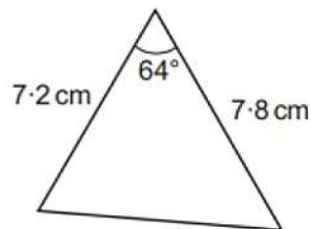
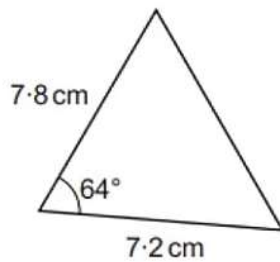
congruent:
ASA

congruent:
RHS

definitely
not congruent

not necessarily
congruent

(c)



[1]

congruent:
SSS

congruent:
SAS

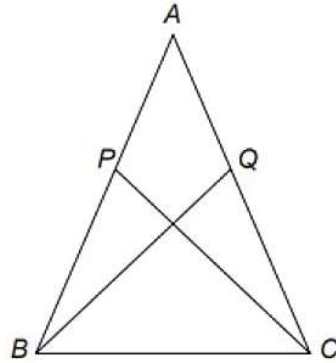
congruent:
ASA

congruent:
RHS

definitely
not congruent

not necessarily
congruent

Higher Maths Nov 2016 P1 Q16

Triangle ABC is an isosceles triangle with $\widehat{ABC} = \widehat{ACB}$.*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]