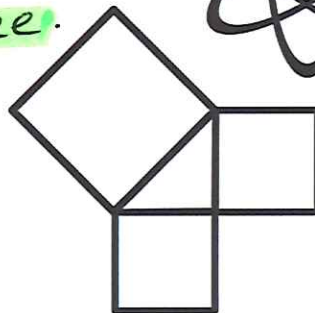
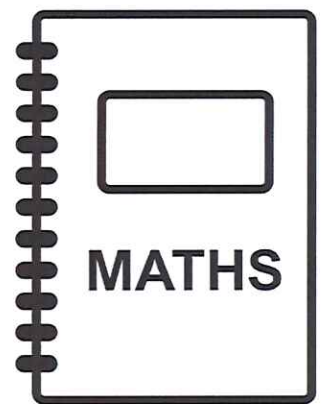
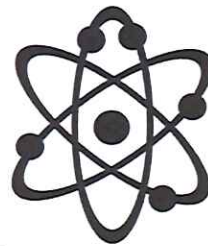


MATHSDIY

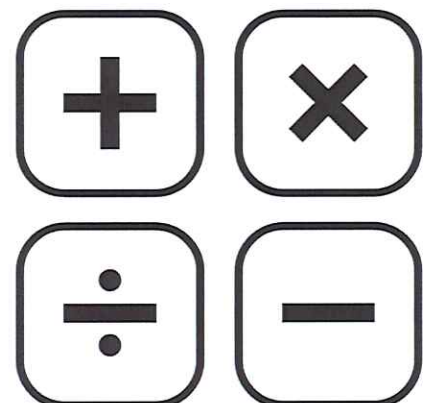
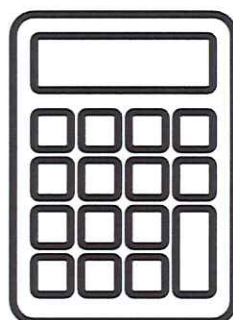
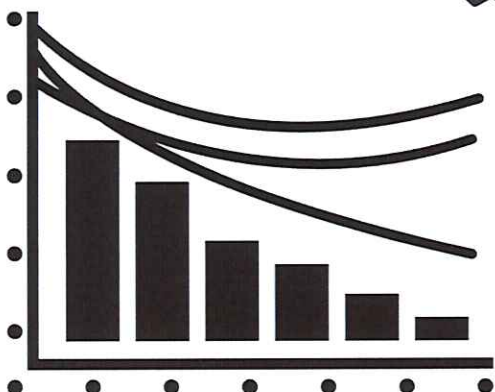
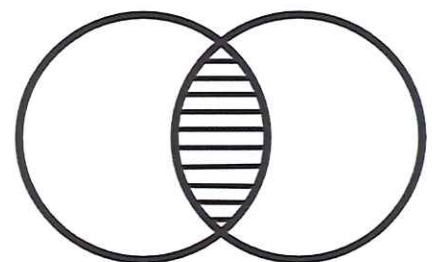
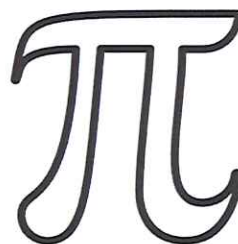
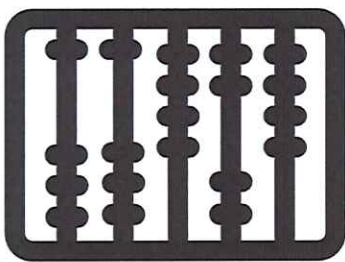
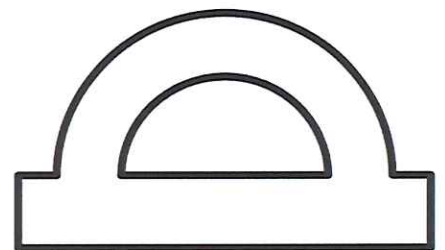
GCSE TOPIC BOOKLET CONGRUENCY

SOLUTIONS

Two figures are **congruent** if they have the **same shape and size**. They are **similar** if they have the **same shape** but **not the same size**.



$$a^2 = b^2 + c^2$$



1.

Circle either TRUE or FALSE for each statement given below.

[2]

STATEMENT		
All equilateral triangles are congruent.	TRUE	FALSE
All squares with equal areas are congruent.	TRUE	FALSE
Circles with equal perimeters are congruent.	TRUE	FALSE
All regular octagons are congruent.	TRUE	FALSE

2.

The following shapes are pieces in a child's jigsaw puzzle.



(a) Which pieces of the jigsaw puzzle are congruent?

..... H and B are congruent
 A and D are congruent

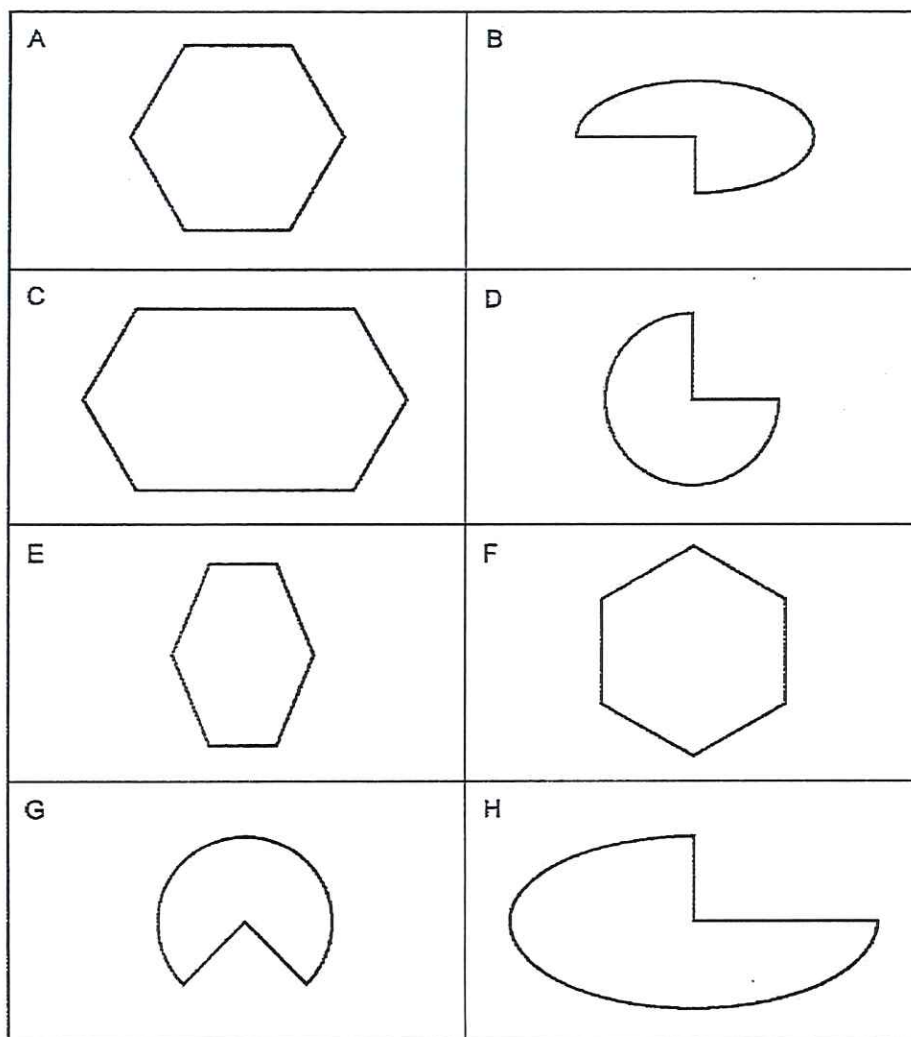
[2]

(b) Which pieces of the jigsaw puzzle are similar but not congruent?

..... F and G are similar but not congruent
 J and K are similar but not congruent

[2]

3.



Use the above shapes to answer the following.

- (a) Write down one pair of congruent hexagons.

[1]

A and E are congruent hexagons.

- (b) Write down another pair of congruent shapes.

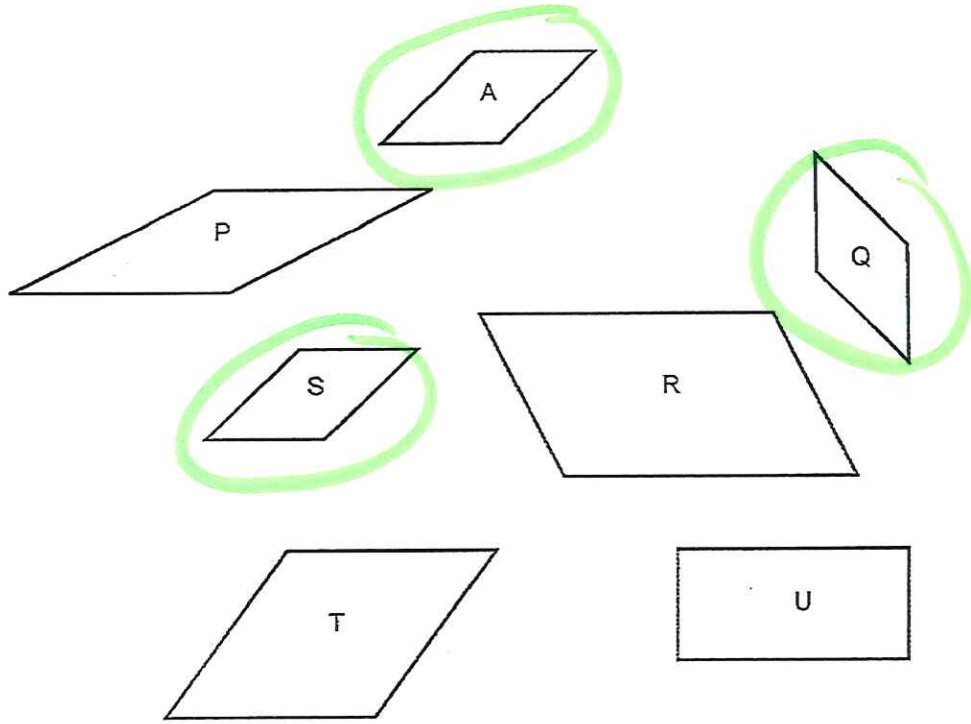
[1]

G and D are congruent shapes.

- (c) Write down one pair of shapes that are similar but not congruent.

[1]

B and H are similar but not congruent.



Which of these shapes are congruent to shape A?

[2]

S and Q

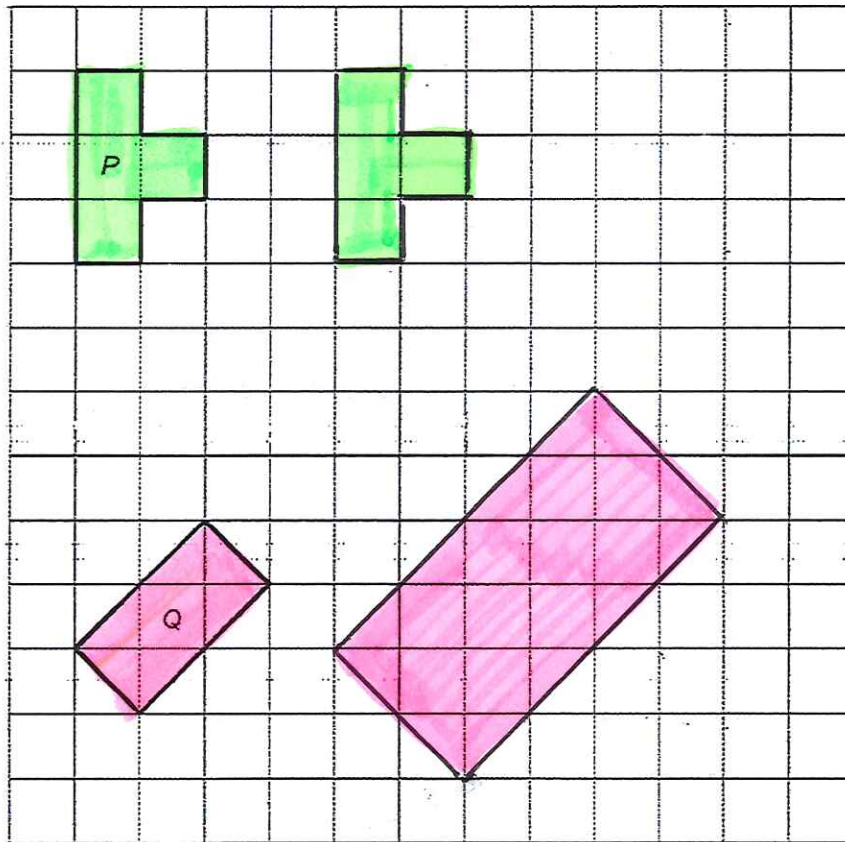
5.

Ceri does not know the difference between congruent and similar shapes.

(a) Draw

- a shape which is congruent to shape P, and
- a shape which is similar, but not congruent, to shape Q.

[2]



(b) Use your diagrams to explain to Ceri the difference between congruent and similar shapes. [2]

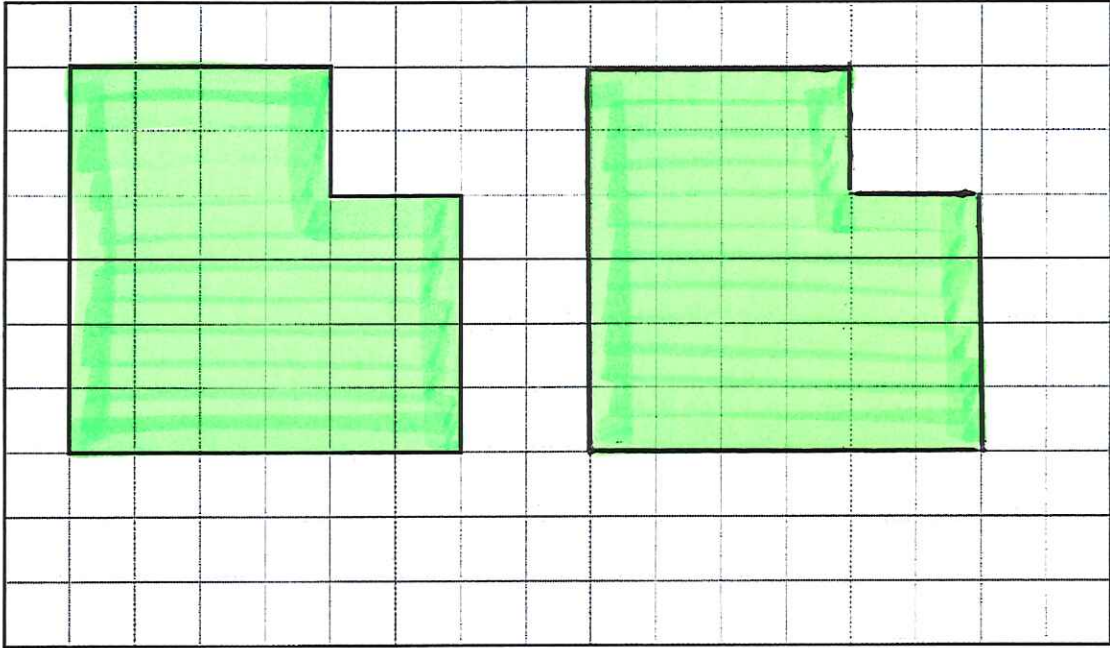
The green shapes are the same shape and the same size. That means they are congruent.

The pink shapes are the same shape but they are not the same size. So they are similar, not congruent.

6.

(a) Draw a shape on the grid that is congruent to the shape given below.

[1]



(b) Draw a shape on the grid that is similar, but not congruent, to the shape given below.

[1]

