

SMILE WORKCARDS

Reflection Pack One

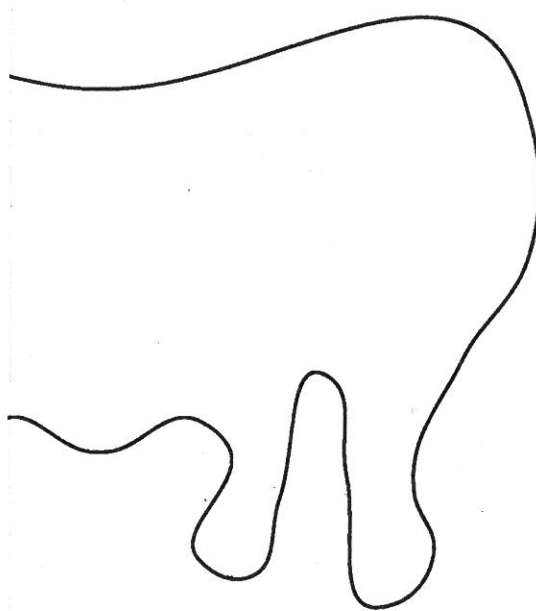
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Try to make at least **three** of your own shapes which have one line of symmetry.

Make a display of your work.

Folding Symmetry

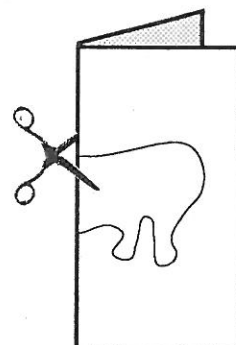


Fold a square in half.

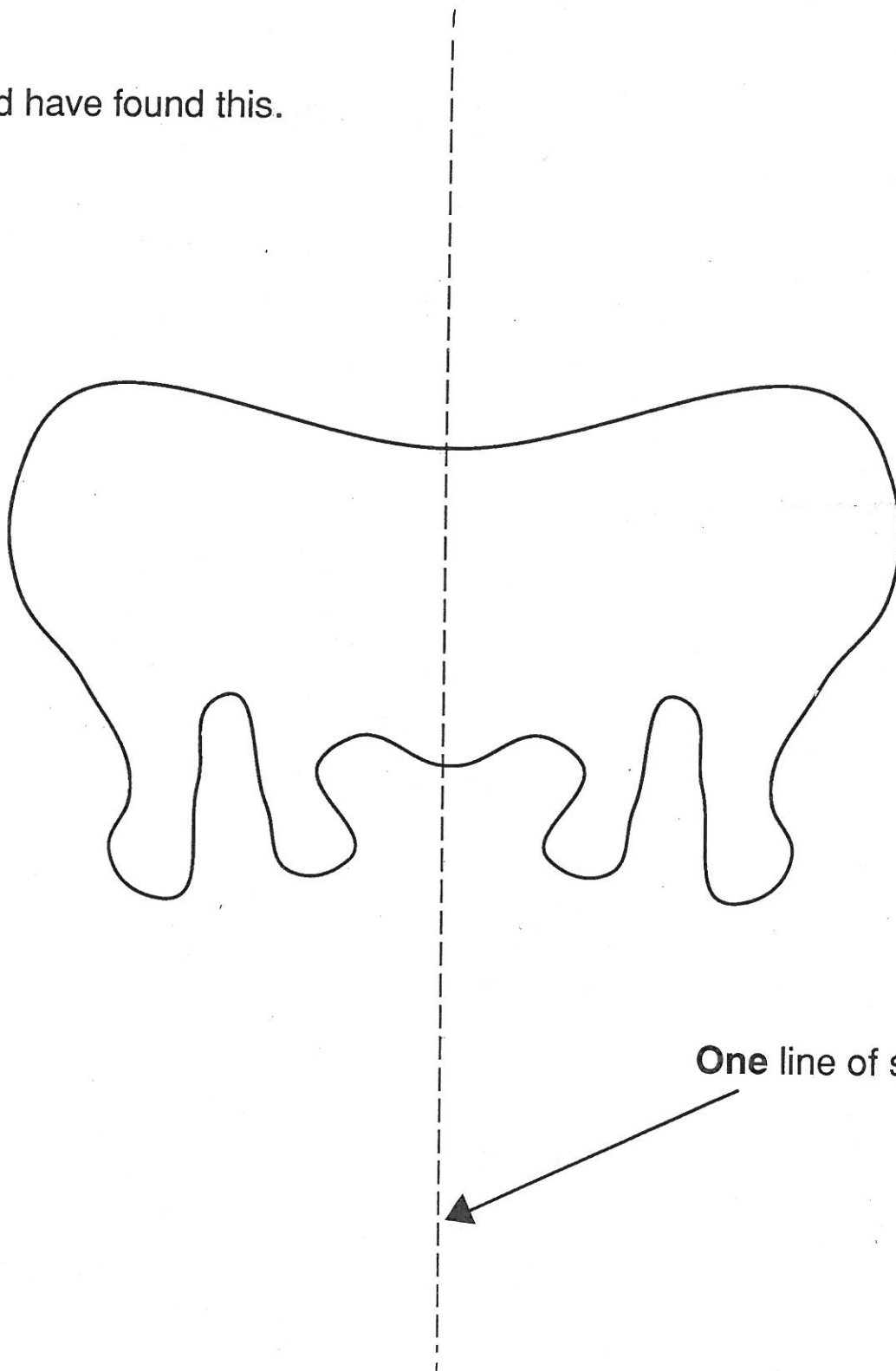
Draw a shape along the fold.

Keep the paper folded and cut out the shape.

Open it out.



You should have found this.

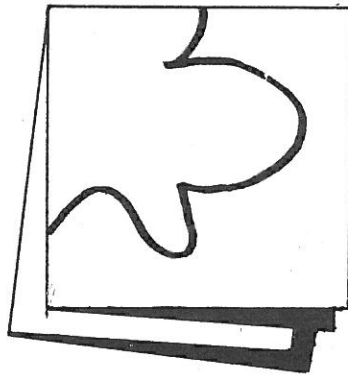


One line of symmetry.

Turn over

You will need: gummed paper squares

Two Folds

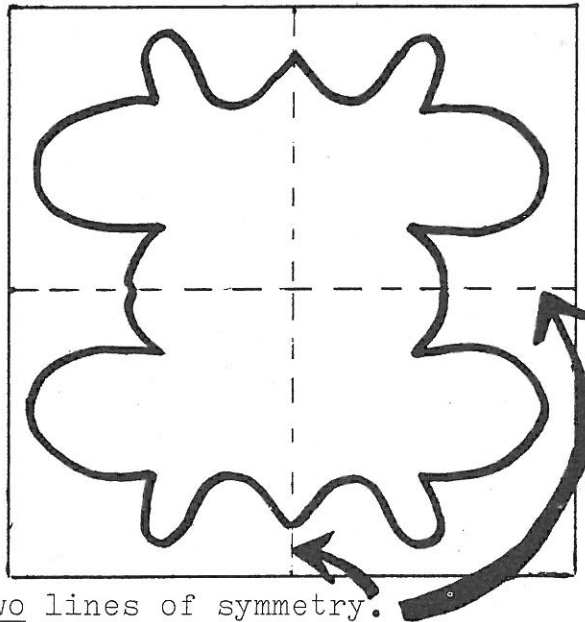


Fold a square twice.

Draw a shape from fold to fold.

Keep the paper folded and cut out the shape.

Open it out.

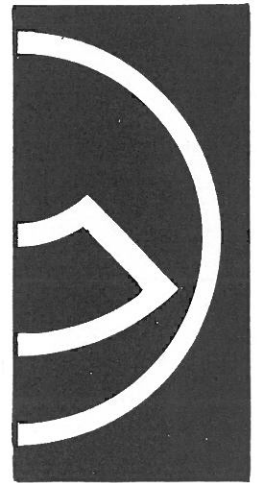
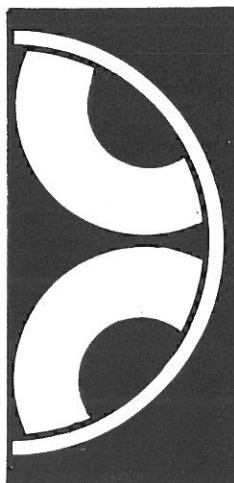
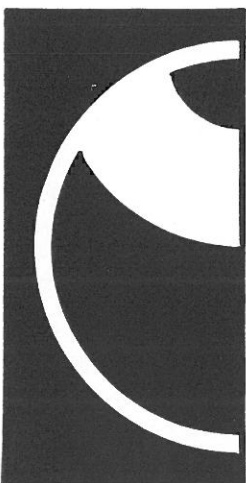
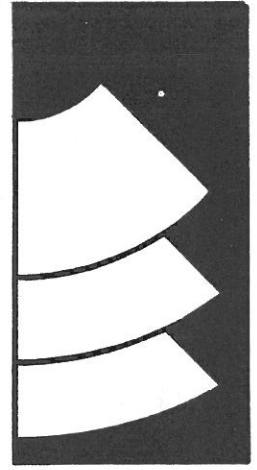
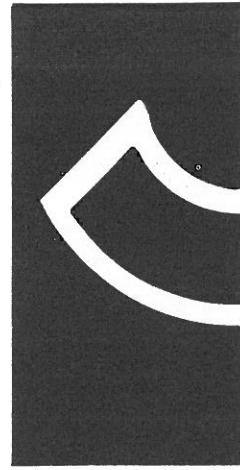
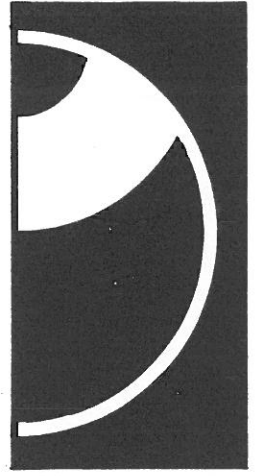
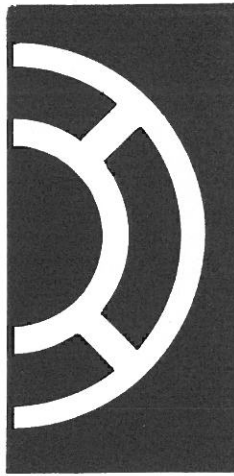
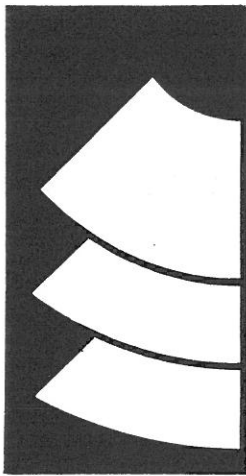


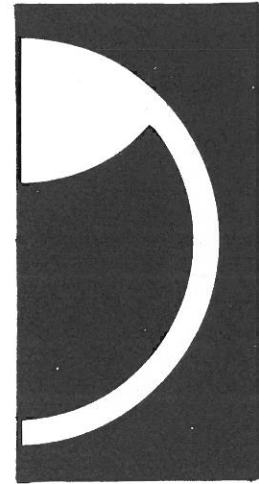
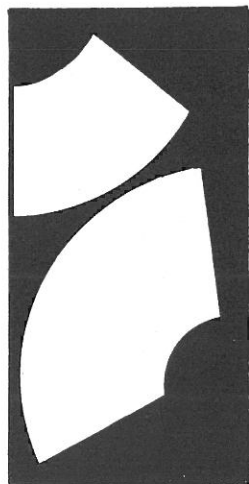
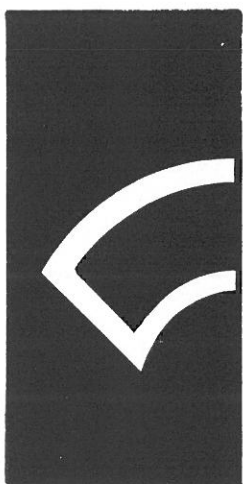
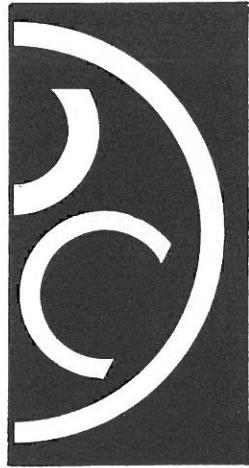
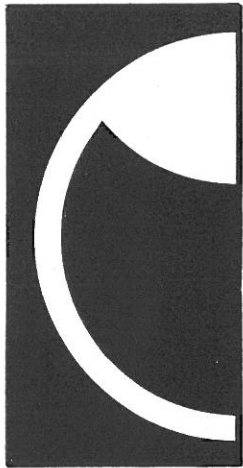
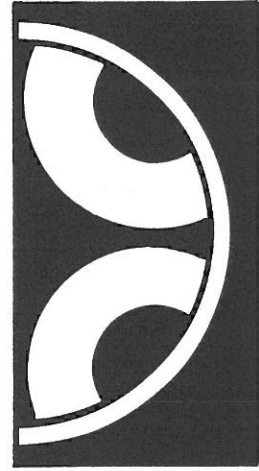
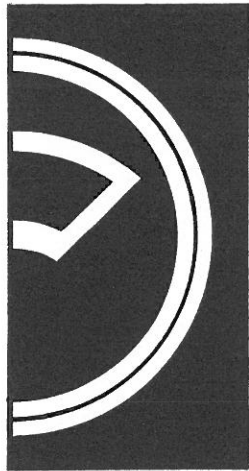
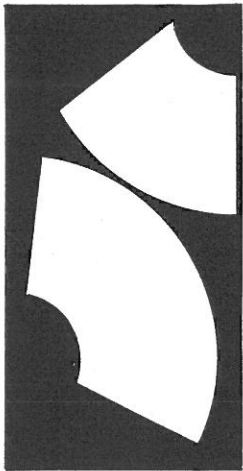
Two lines of symmetry.

Try another shape, or more folds.

Symmetry Match

Cut out and match the pieces.





Smile 1680

REFLECT- A -BUG

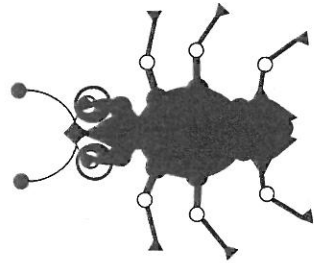
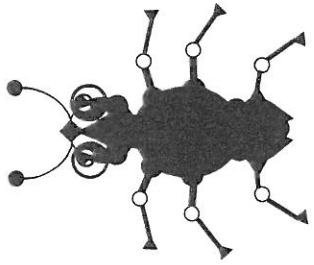
In this pack you will find a mirror card and ten bug pictures.

Can you put the mirror on the bug **on the back of this card** to make the other bug pictures?

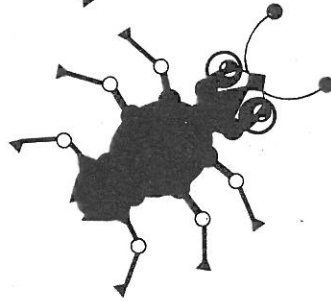
Which of the bug pictures can you make?
Which ones can't you make?

There are some more cards like these in a pack called "Materials for Mirror Cards" (ISBN 07-018418-6) which should be in your school library.

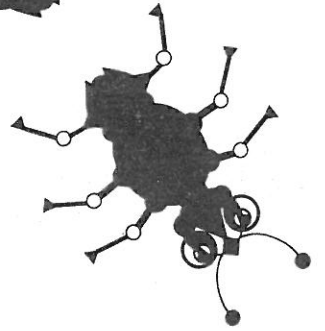
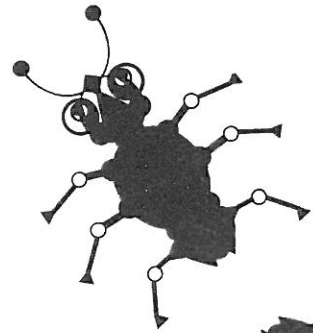
1



2

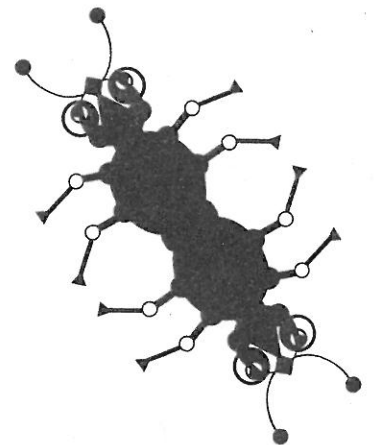
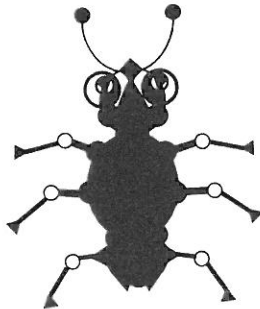
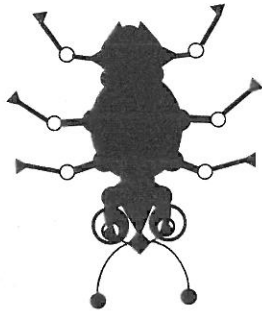
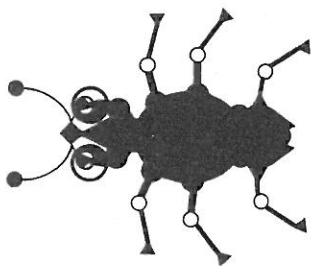
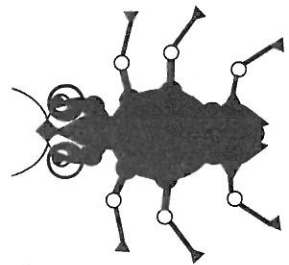


3

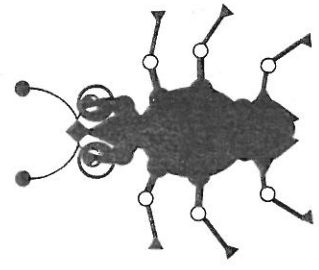


5

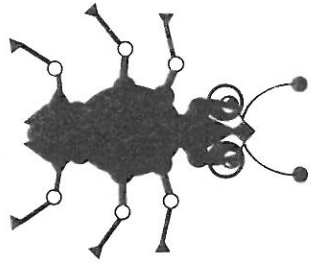
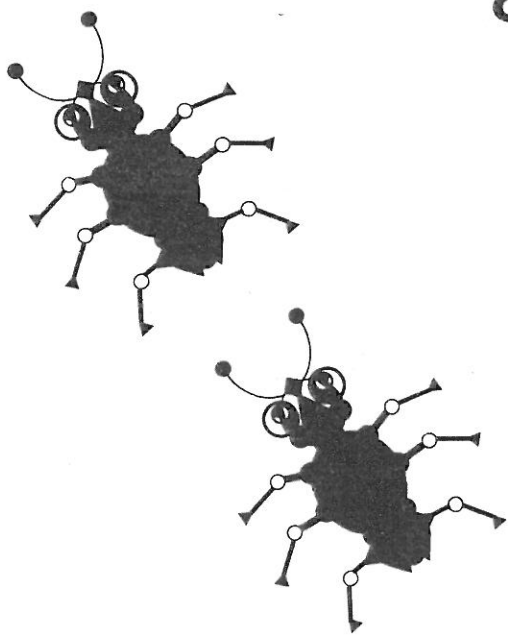
6



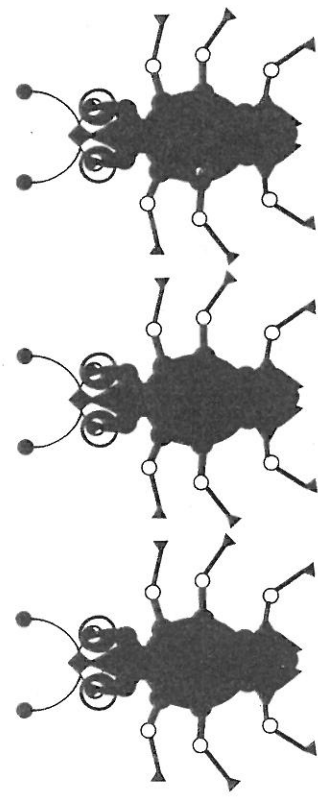
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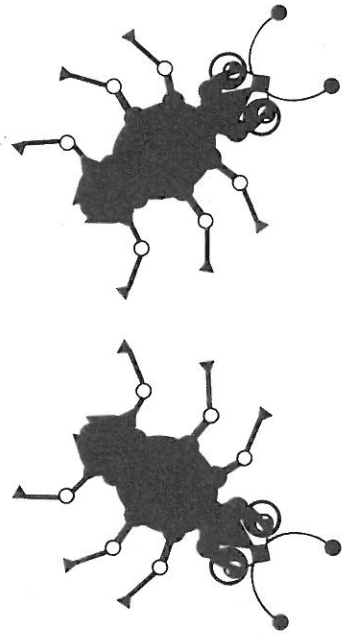
8



9



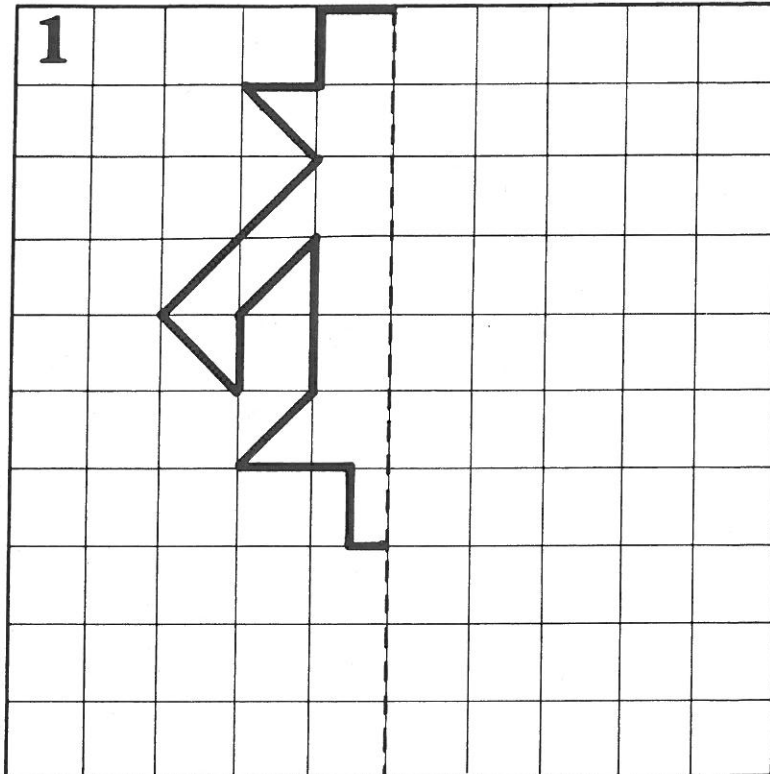
10



Mirror Symmetry

Smile 0251

You will need cm squared paper, coloured pencils and a mirror



Copy this onto squared paper. Put the mirror on the dotted line.

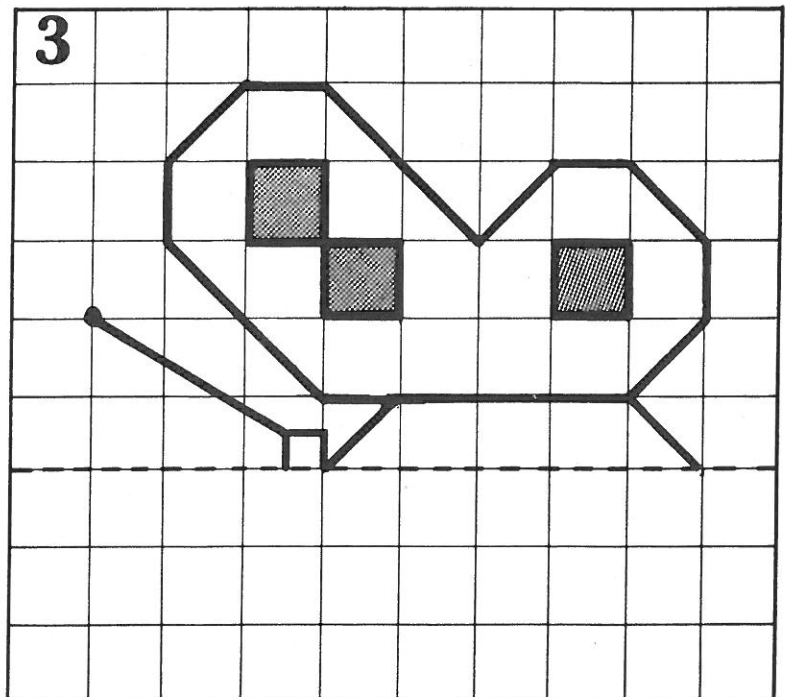
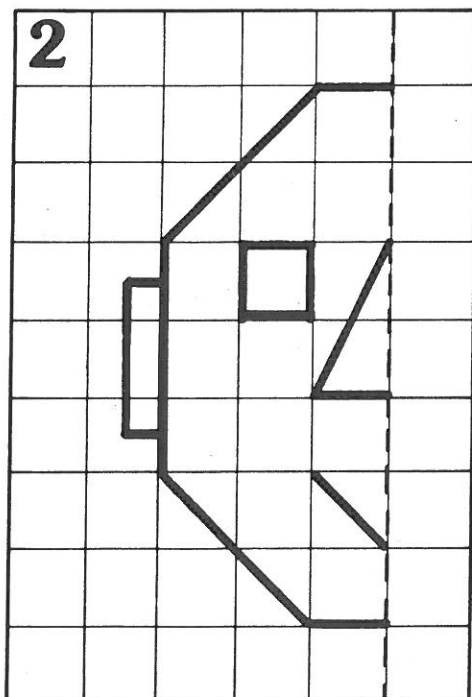
Remove the mirror and draw in the reflected shape.

Do the same with (2) and (3) below.

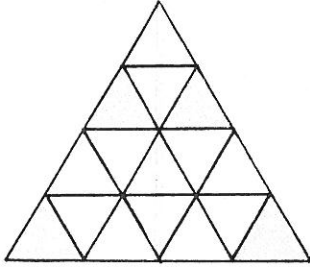
The dotted line is called the line of symmetry.

Label the line of symmetry on each drawing.

Draw some designs of your own and use the mirror to complete them.

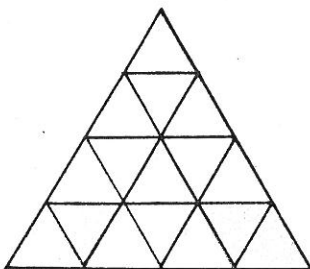
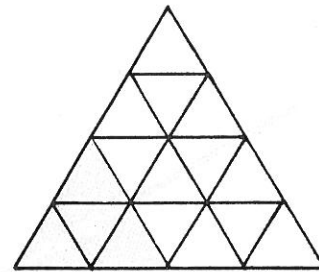


You will need some copies of worksheet 1847a



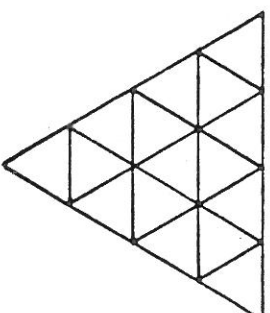
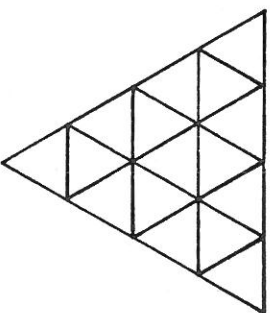
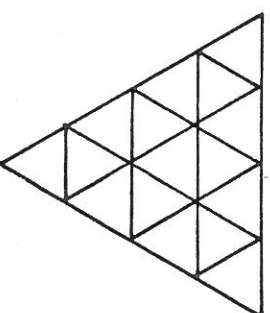
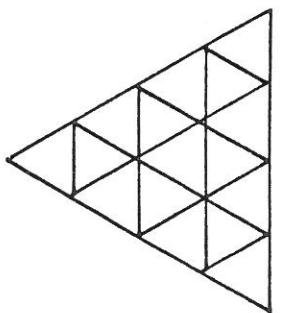
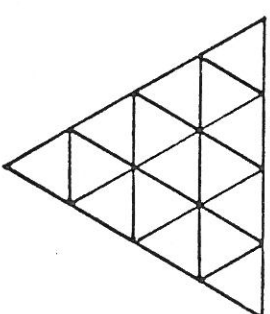
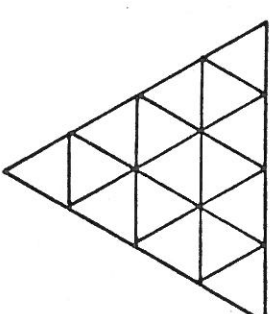
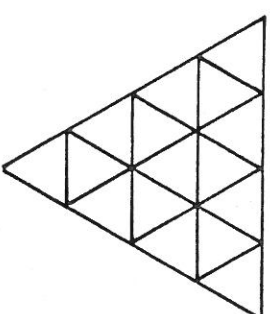
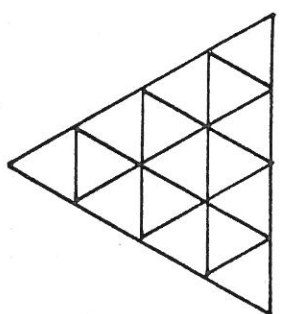
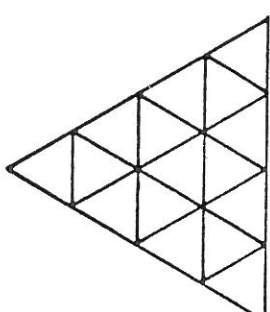
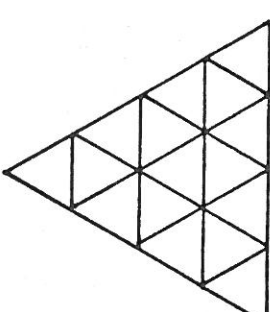
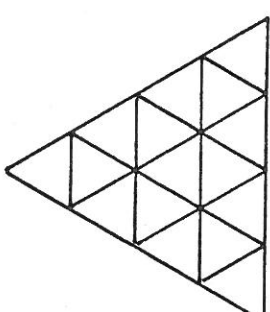
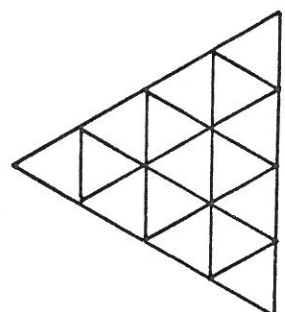
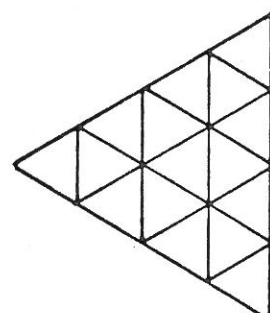
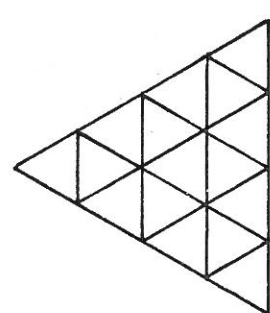
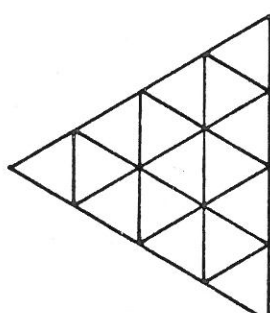
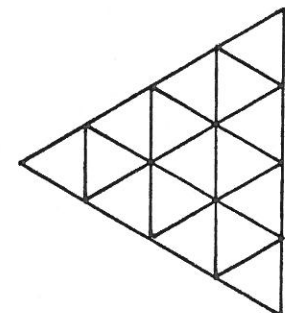
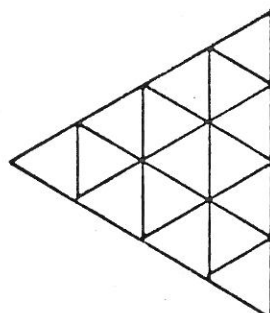
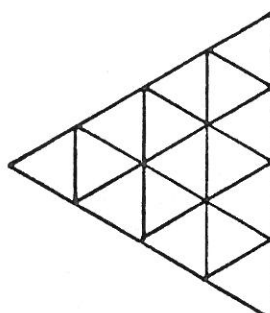
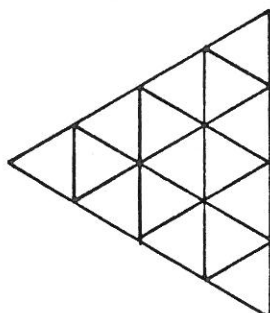
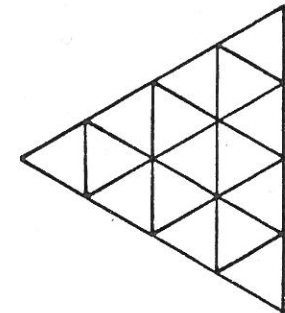
Symmetrical Triangles

Four small triangles
are shaded . . .



. . . to give a
symmetrical shape.

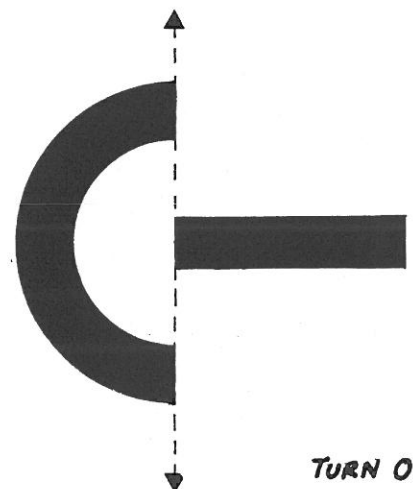
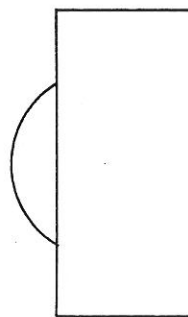
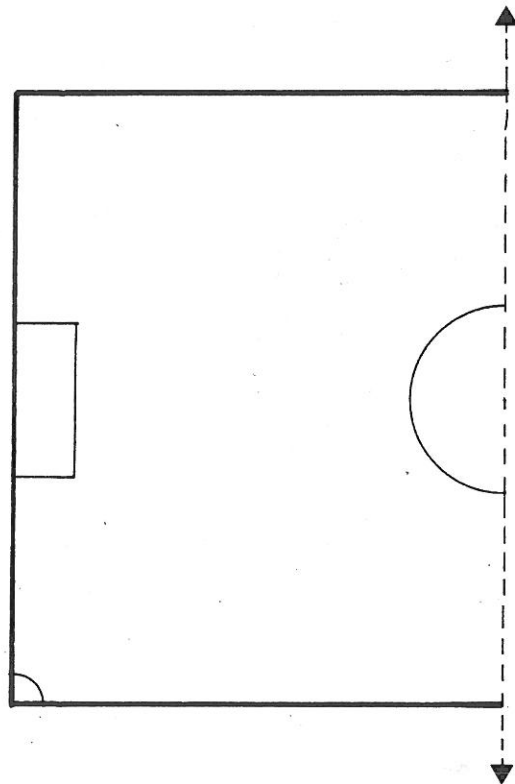
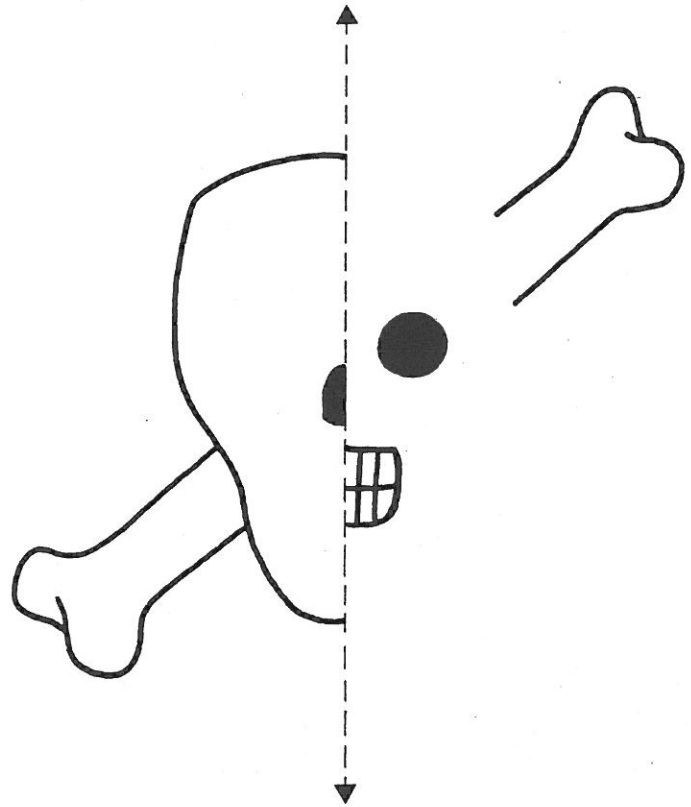
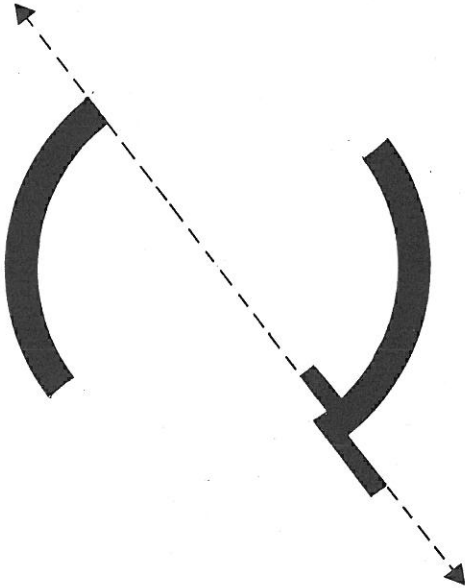
How many can you find?



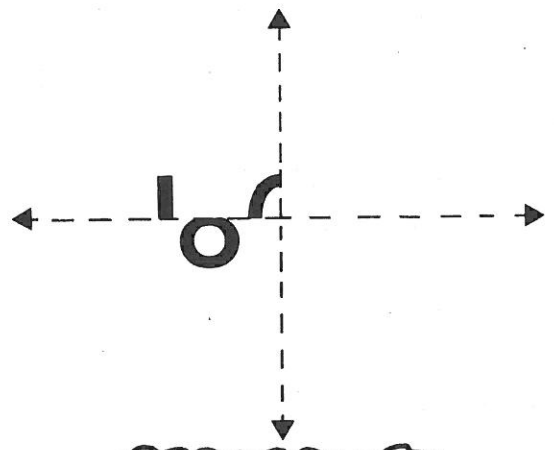
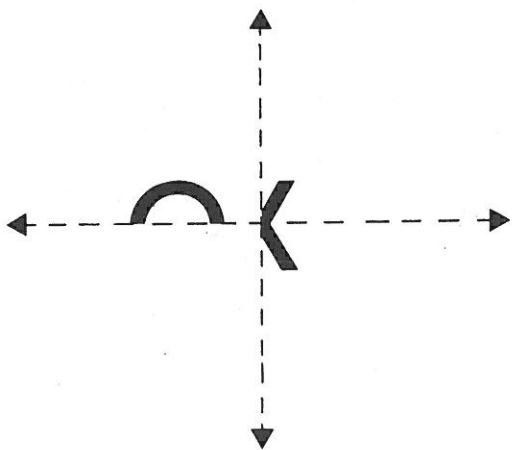
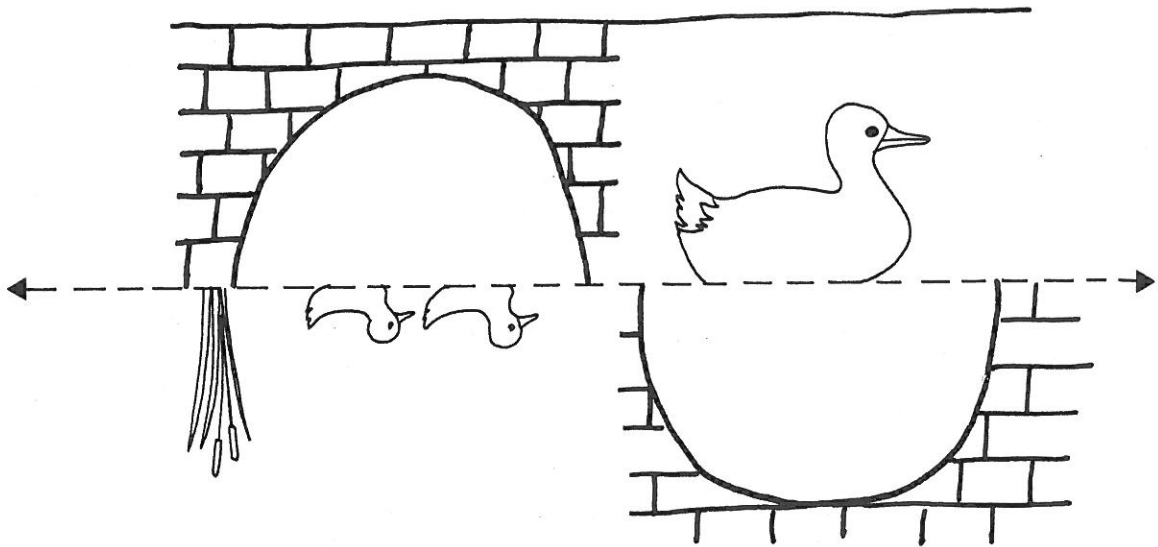
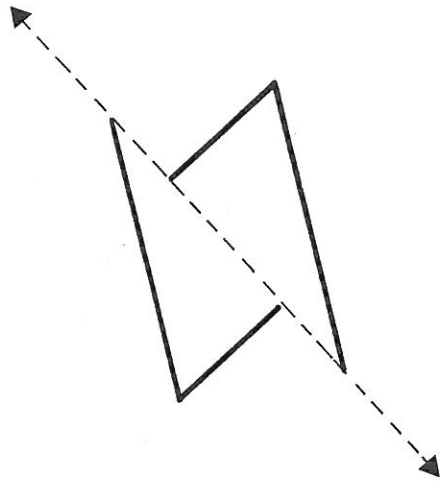
Symmetry

The dotted lines are lines of symmetry.

Use reflection to complete the pictures.



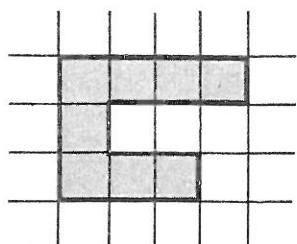
TURN OVER



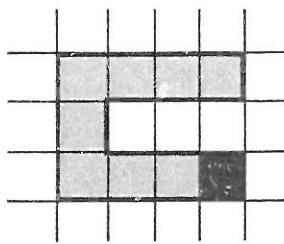
9x2009?

Add a square

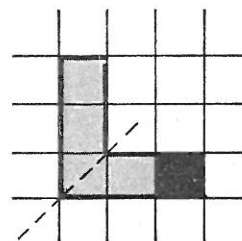
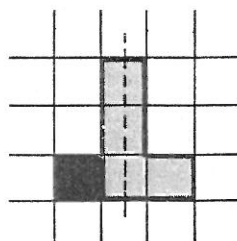
This shape is almost symmetrical.



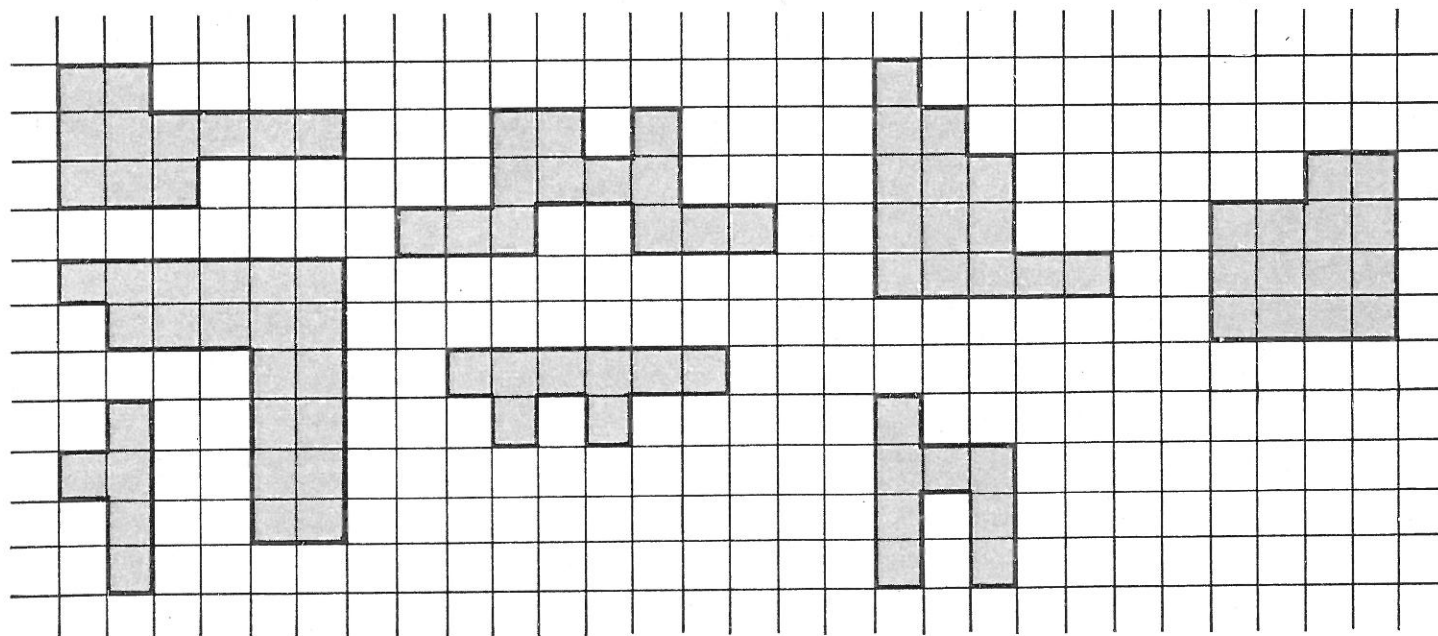
By adding one square we can make it symmetrical:



There are three different ways to make this shape symmetrical... here are two of them... can you find the other?



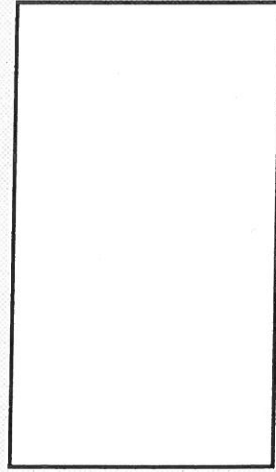
Add a square to each of these shapes to make them symmetrical. Draw in the line of symmetry each time. There are three different answers for one of the shapes. Which one?



Can you make these shapes symmetrical by removing one square?

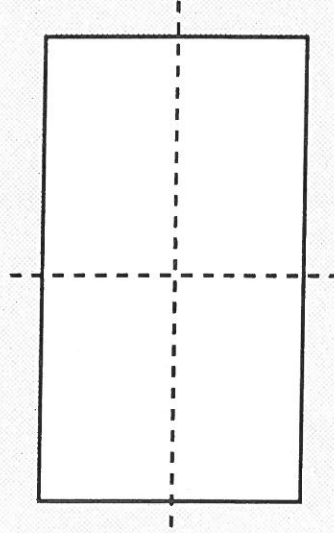
Symmetry Codes

You will need a mirror.



This shape has

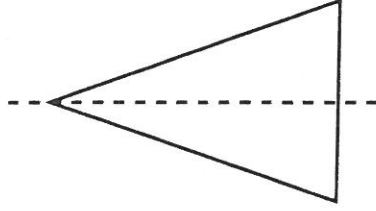
sides,



and lines

of symmetry.

This shape has code

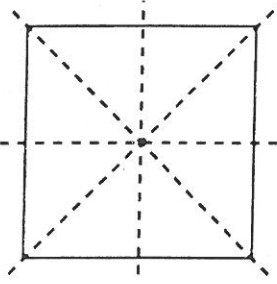


This shape has sides

and line of symmetry.

This shape has code

1)



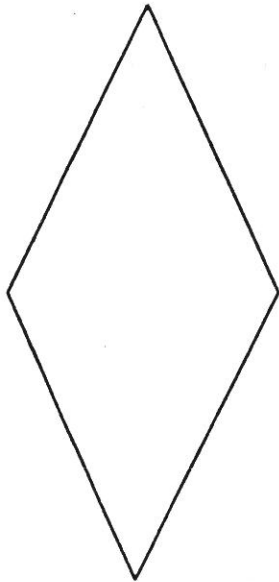
This shape has sides

and lines of symmetry.

This shape has code

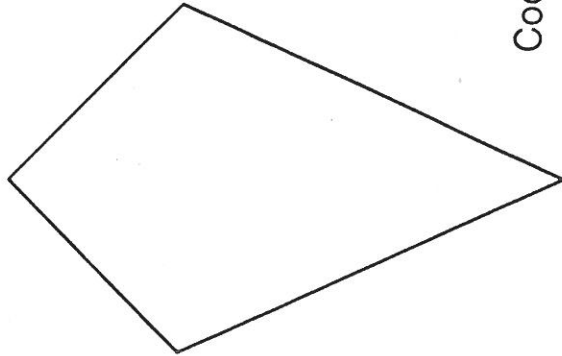
Draw the lines of symmetry on these shapes and work out their codes.

2)



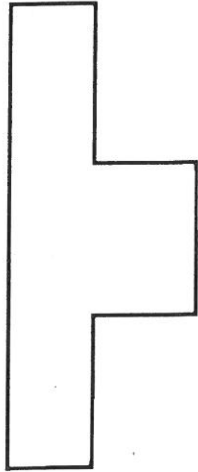
Code:

3)



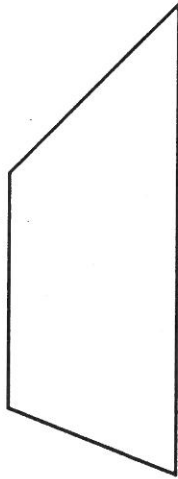
Code:

4)



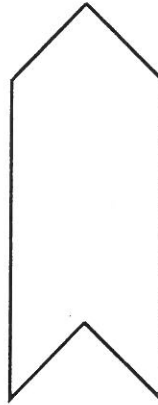
Code:

5)



Code:

6)



Code:

7) Draw and code some more shapes of your own.

Turn over

Reflection

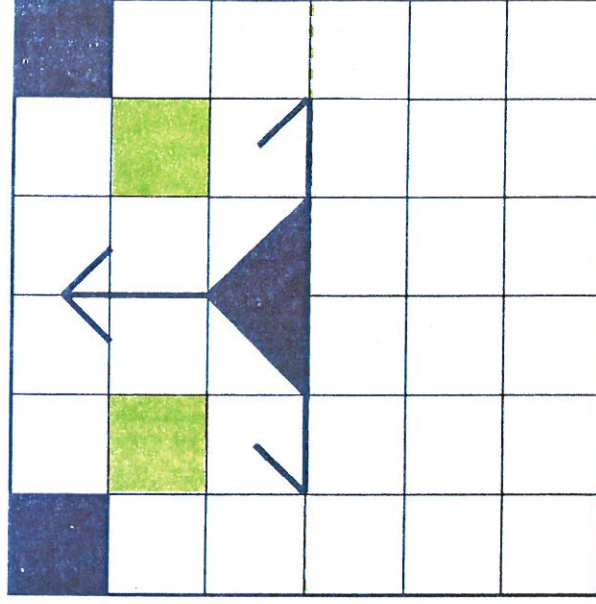
Smile 0709

You will need squared paper, colours and a mirror.

Copy this pattern on to squared paper.

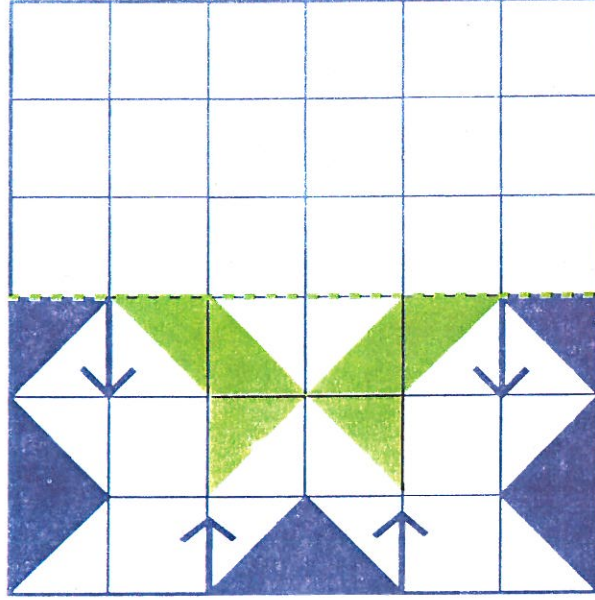
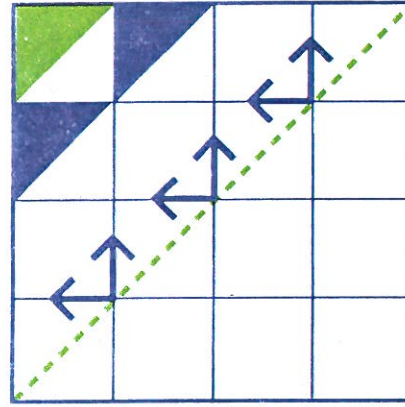
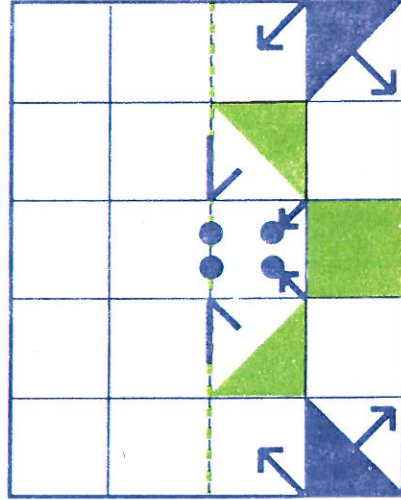
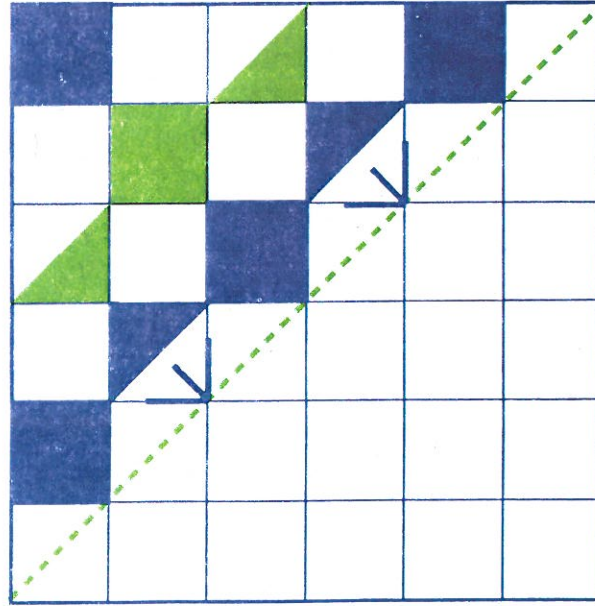
Put the mirror on the dotted line and look at the reflection.

Remove the mirror and draw in the reflected pattern.



Turn over

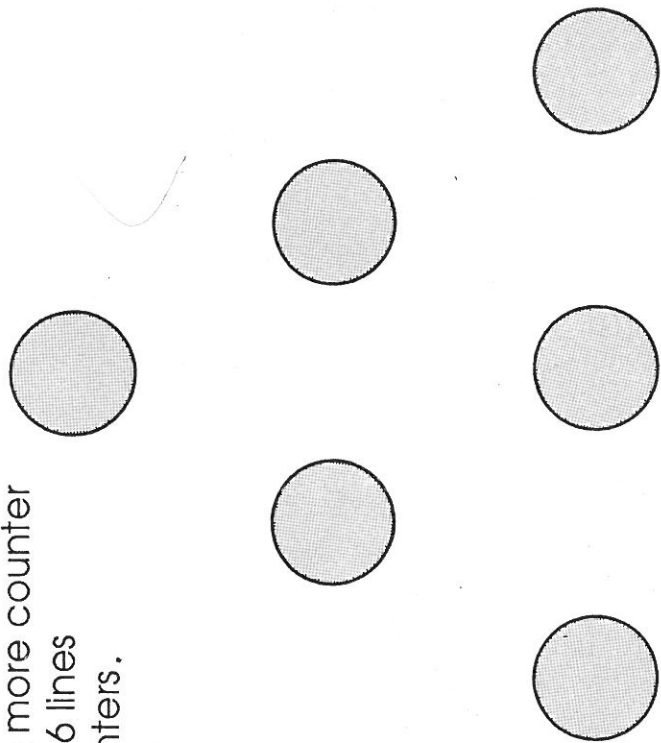
Copy at least two of these patterns and draw in their reflections.



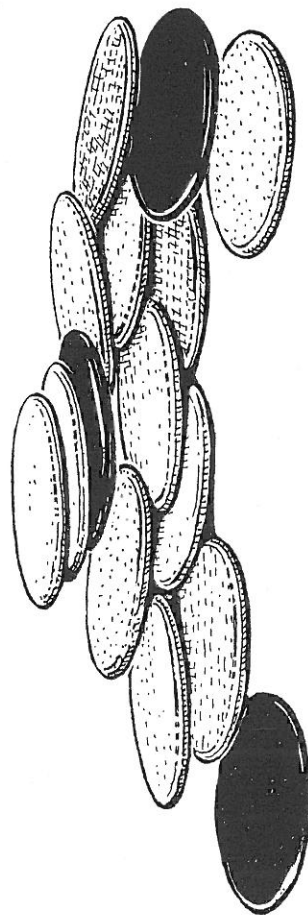
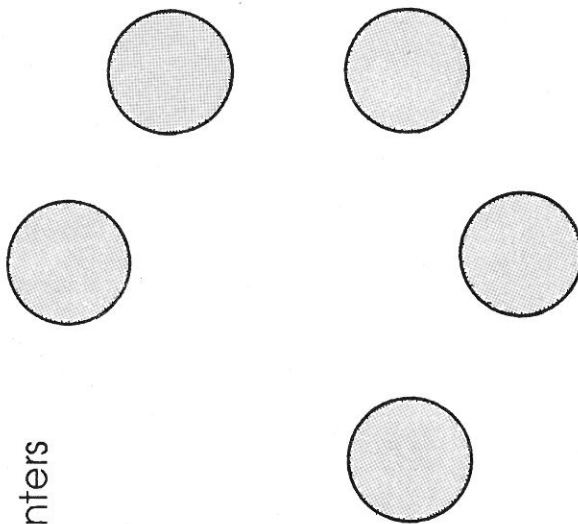
Design a pattern of your own and then reflect it.

Adding Counters

Add one more counter
to make 6 lines
of 3 counters.

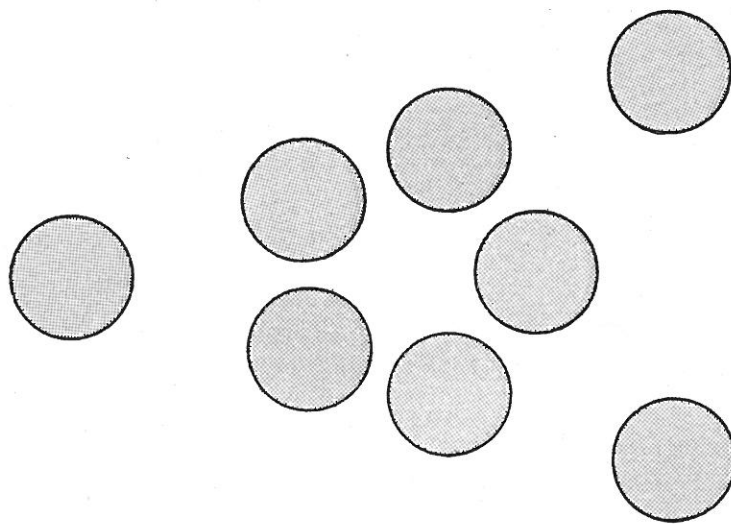


Add two more counters
to make 3 lines
of 3 counters.

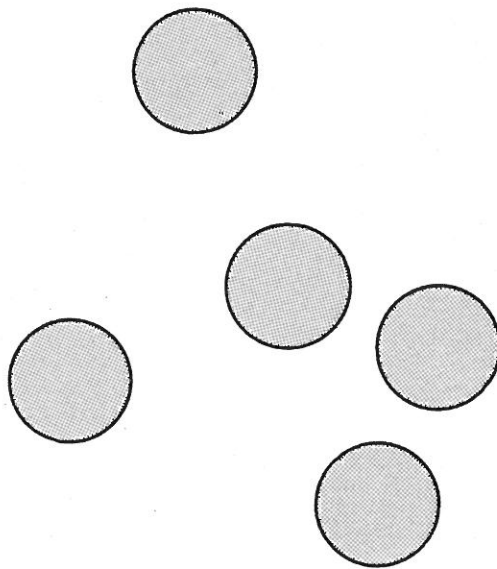


You will need counters.

Add two more counters
to make 5 lines
of 4 counters.



Add four more counters
to make 8 lines
of 3 counters.



Smile 1954

Line Symmetry

You will need a copy of the Highway Code and a mirror.



This is a road sign which warns people about a hump bridge.

It has **1** line of symmetry.

Check with a mirror.

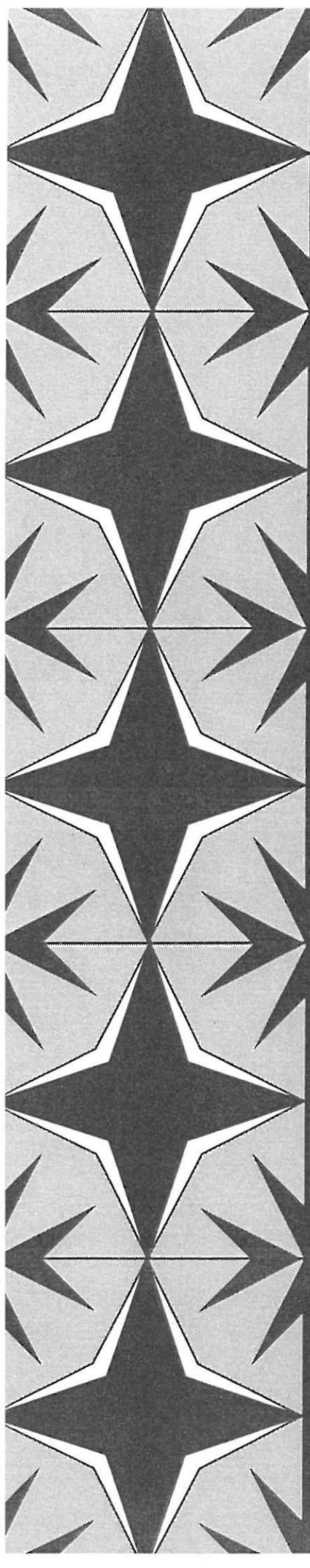


This sign has **2** lines of symmetry.

Check them with a mirror.

How many signs can you find which have lines of symmetry?

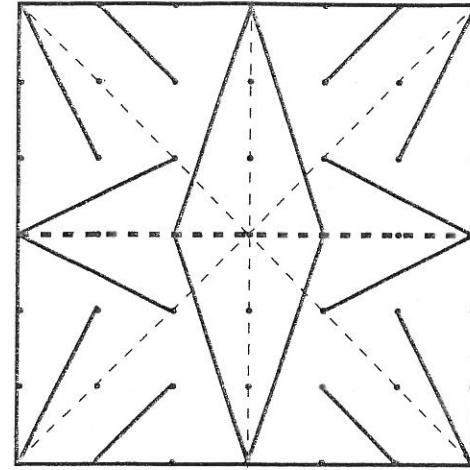
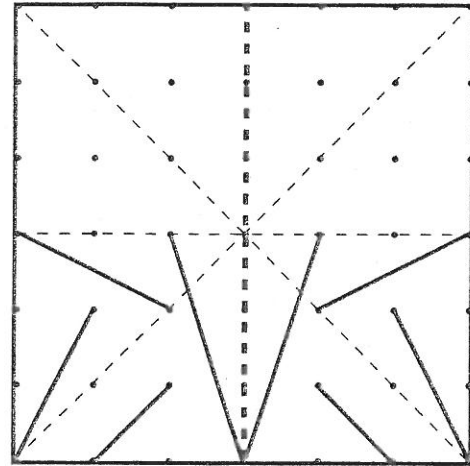
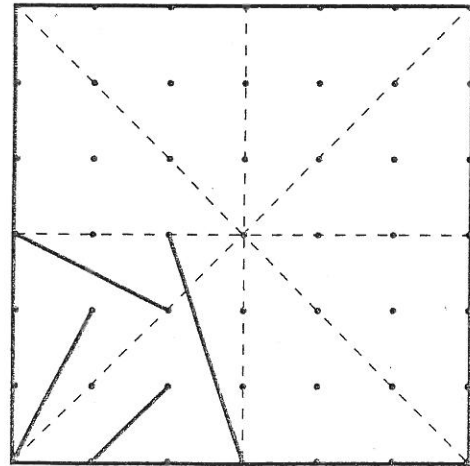
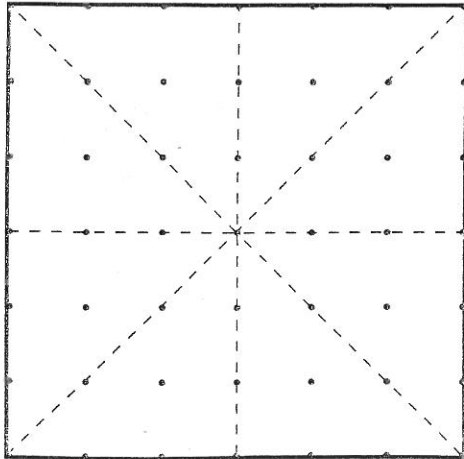
Choose three of these and show the lines of symmetry.



Rangoli Patterns

Smile 2309

You will need: a mirror and square dotted paper.

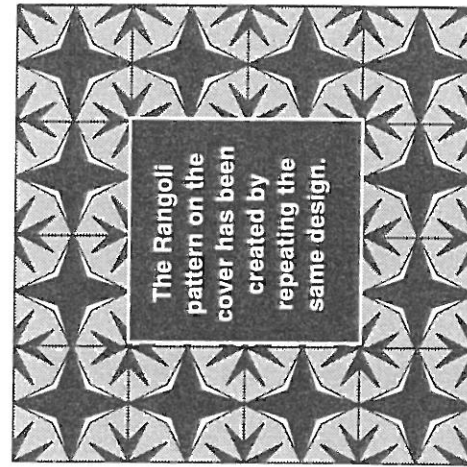
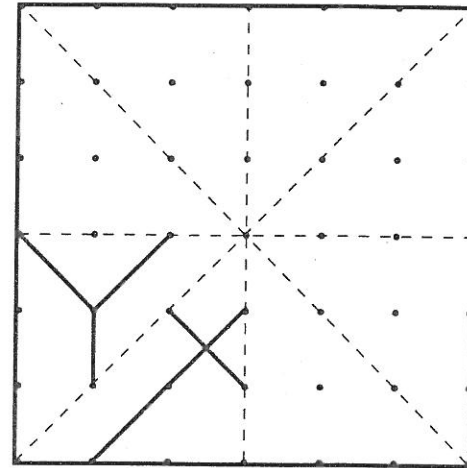
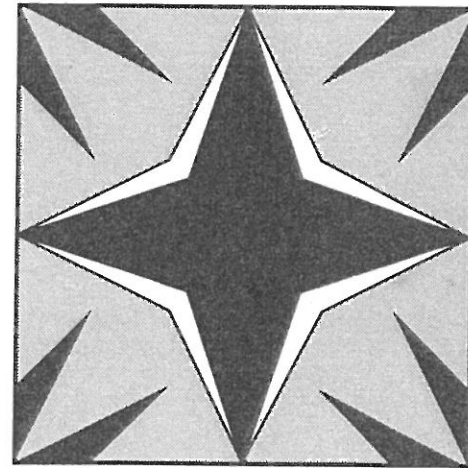
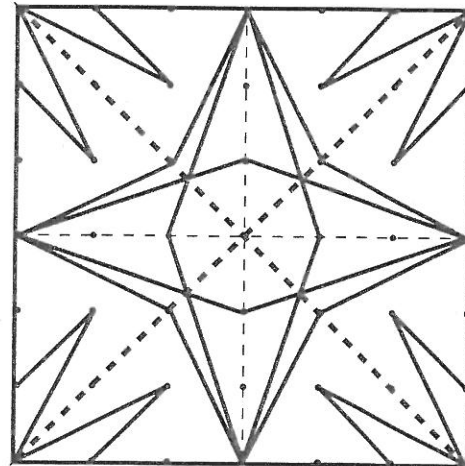


1 Draw a 6cm x 6cm square. Mark in the 4 lines of symmetry.

2 Draw some lines in one corner. Reflect these lines in ...

3 ... the horizontal line of symmetry.

4 ... the vertical line of symmetry.



5 ... the diagonal lines of symmetry.

6 Rub out the lines of symmetry. Colour in the design, keeping the symmetry.

7 If you started with these lines what would you get after reflecting them in the lines of symmetry?

8 Create your own repeated pattern. You may like to use an isometric grid.