

Rotation

Here are some examples of activities, games or puzzles which can be used to support mathematics learning.

These examples are taken from the rotation packs. The mathematical demand increases as you work through the packs. The complete packs can be downloaded at

<https://www.stem.org.uk/rxzff>

Answers to cards can be found at <https://www.stem.org.uk/rxxo5>

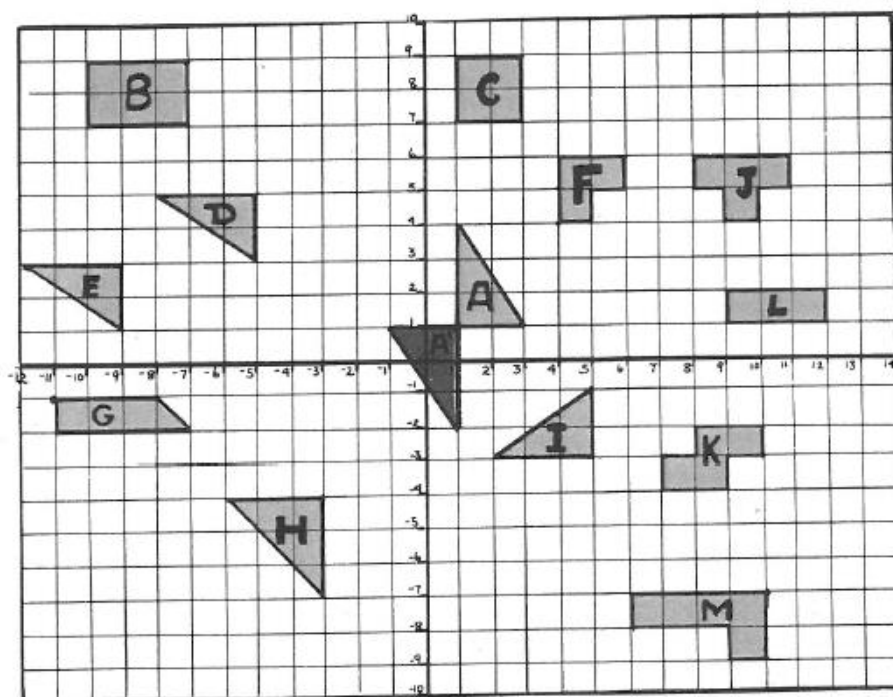
0730

SMILE

ROTATION WORKSHEET

Rotate the shapes as instructed below.

Tracing paper might help.



- A** half turn anti-clockwise about (1,1). (This has been done for you)
- B** quarter turn clockwise about (-7,7)
- C** quarter turn anti-clockwise about (3,9)
- D** quarter turn clockwise about (-5,3)
- E** quarter turn anti-clockwise about (-12,3)
- F** half turn clockwise about (5,4)
- G** quarter turn anti-clockwise about (-7,-2)
- H** three quarter turn anti-clockwise about (-3,-4)
- I** quarter turn clockwise about (2,-3)
- J** half turn about (11,6)
- K** quarter turn anti-clockwise about (7,-4)
- L** half turn about (11,1)
- M** half turn about (10,-7)

You will need copies of Smile
Worksheets 2111a, 2111b,
2111c.

Smile 2111

Rotational Symmetry Jigsaws

This pattern has rotational
symmetry.



This pattern does not have
rotational symmetry.



Can you see why?

Turn over

Cut out the pieces from the worksheets and find these
rotational symmetry patterns.



The jigsaw on worksheet 2111a
can make 2 different rotational
symmetry patterns.



The jigsaw on worksheet 2111b
can make 3 different rotational
symmetry patterns.



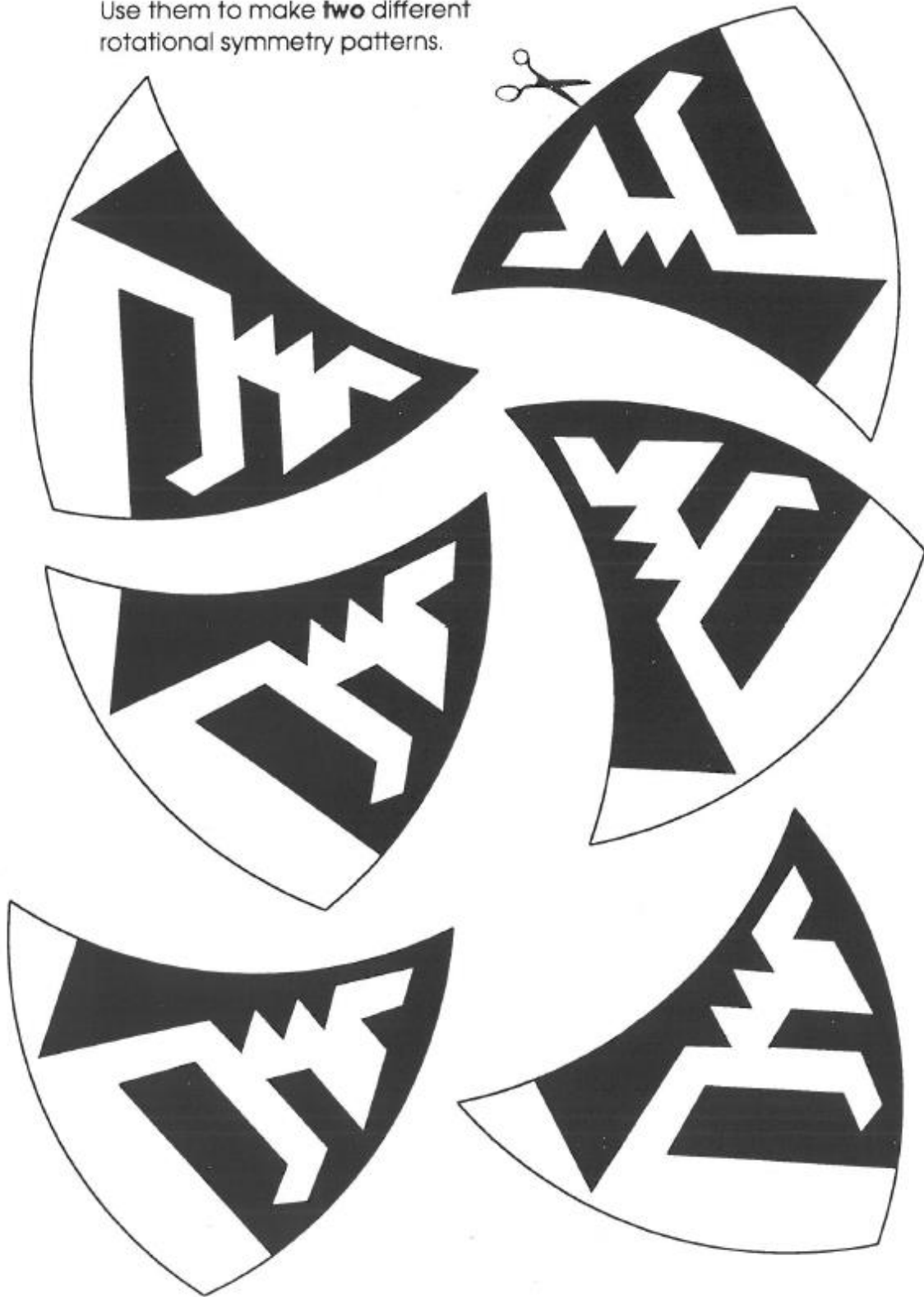
The jigsaw on worksheet 2111c
can make many rotational
symmetry patterns.

How many can you make?

Smile Worksheet 2111a

Cut out these 6 shapes.

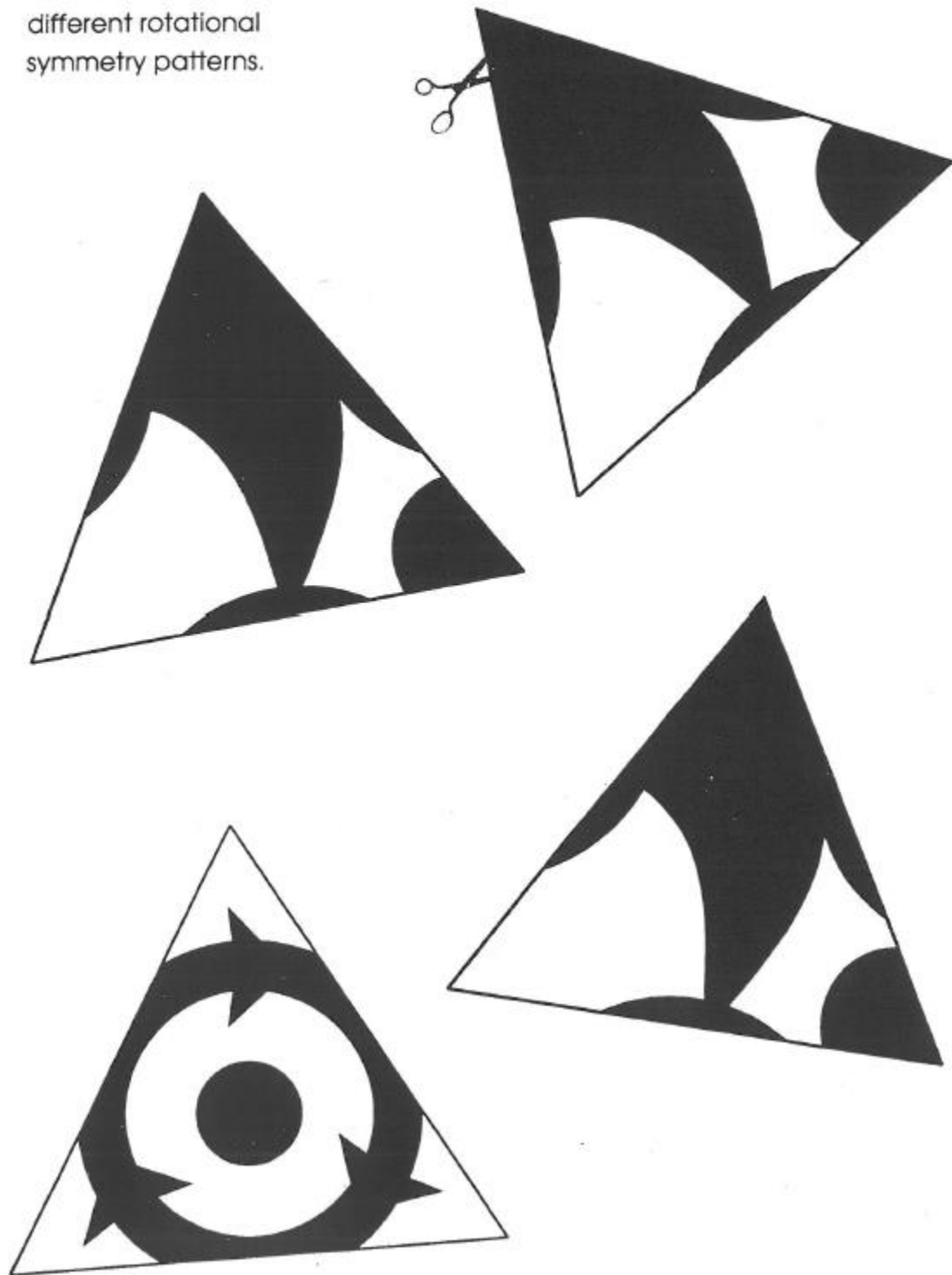
Use them to make **two** different rotational symmetry patterns.



Cut out these 4 triangles.

Smile Worksheet 2111b

Use them to make **three**
different rotational
symmetry patterns.



Smile Worksheet 2111c

Cut out these 6 shapes.
How many different rotational symmetry
patterns can you make?

