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Print Group

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# Alphabet Symmetry

- **Put each letter into a box.**

Y S G
O D
K C F A
T P U B V
H I Q
E N X R
M J Z
W L

Does it have a horizontal line of symmetry?

**Yes** → Does it have a vertical line of symmetry?

- Yes → Diagonal line of symmetry?
  - Yes → Half turn rotational symmetry? → Yes / No
  - No → Half turn rotational symmetry? → Yes / No
- No → Diagonal line of symmetry?
  - Yes → Half turn rotational symmetry? → Yes / No
  - No → Half turn rotational symmetry? → Yes / No

**No** → Does it have a vertical line of symmetry?

- Yes → Diagonal line of symmetry?
  - Yes → Half turn rotational symmetry? → Yes / No
  - No → Half turn rotational symmetry? → Yes / No
- No → Diagonal line of symmetry?
  - Yes → Half turn rotational symmetry? → Yes / No
  - No → Half turn rotational symmetry? → Yes / No

- *Why are most boxes empty?*

*You may like to design a similar sorting diagram for the numbers 0 – 9.*

# Spiralling Squares Patterns

You will need 4 copies of this worksheet.
Each copy should be on a different colour paper.
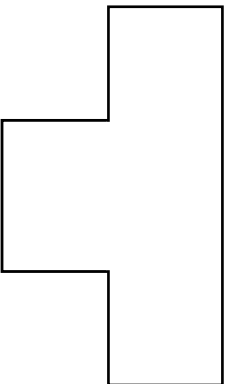
Cut out all the squares.
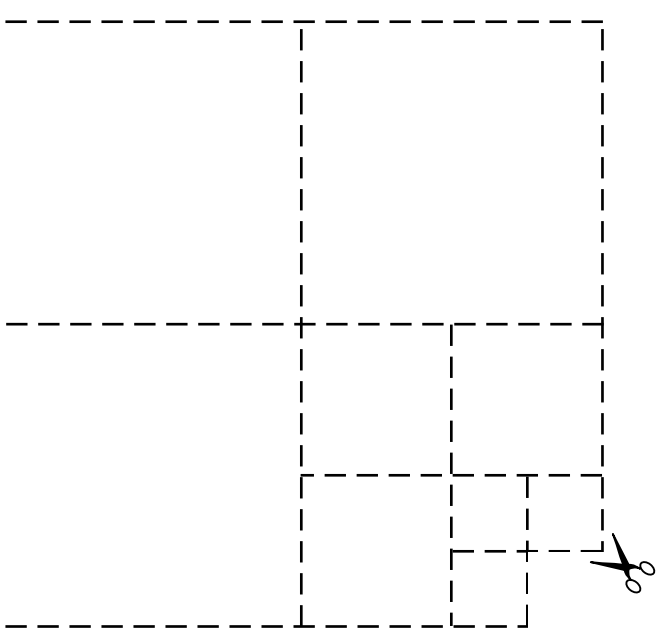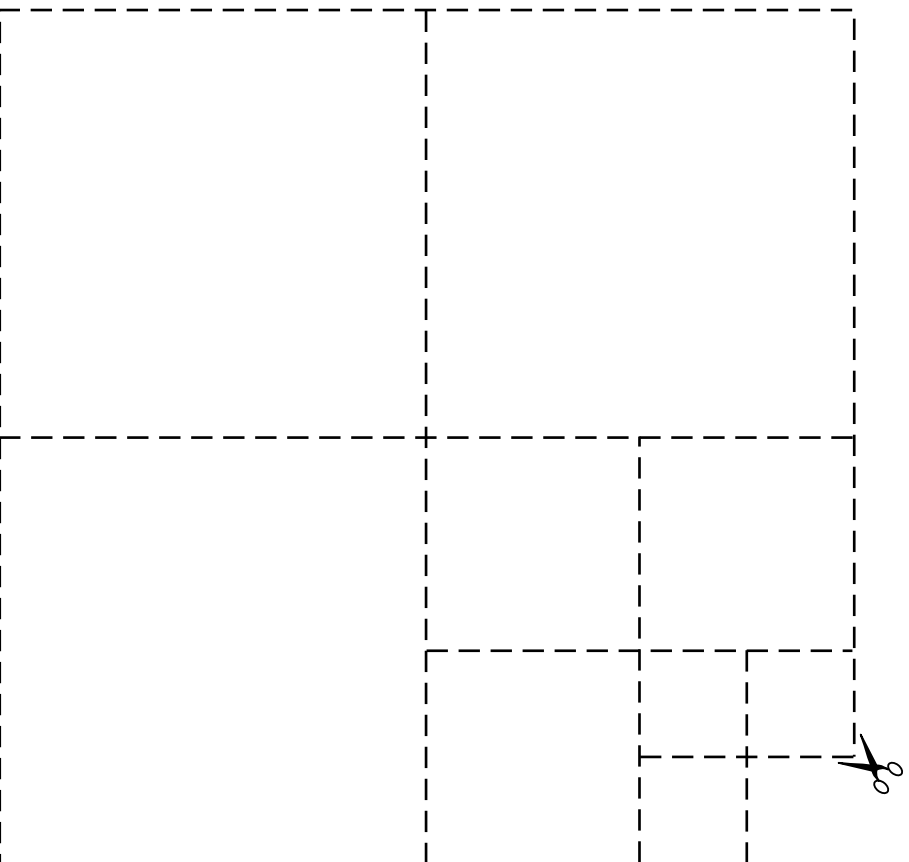
# Likely or unlikely?

Cut out the following statements.
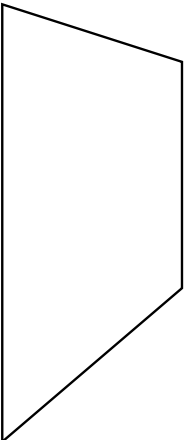
✂

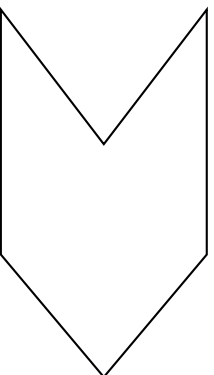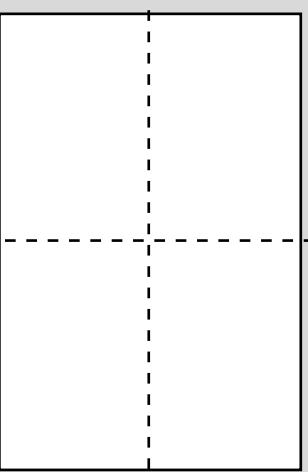| | |
|---|---|
| You will grow a banana on an apple tree. | You will travel home by airplane from school. |
| You will see rain today. | You will eat chips today. |
| It will rain somwhere in Britain today. | You will eat fish and chips today. |
| You will look out of the window today. | It will rain in the Sahara desert tomorrow. |
| Everyone in the class will do their homework this week. | You will be older tomorrow then you are today. |
| You will look at a clock today. | You will wake up before 8.00 a.m. tomorrow. |
| You will drink a can of coke or lemonade this week. | You will watch TV at the weekend. |
| A spaceship will land in the playground tomorrow. | The headteacher will come into your classroom today. |
| You will enjoy school today. | You will get "heads" when you toss a coin. |

# Symmetry Codes

You will need a mirror.

This shape has

| 4 |

sides,

and | 2 | lines

of symmetry.

This shape has code | 4 | 2 |

4)

Code: ☐ ☐

5)

Code: ☐ ☐

6)

Code: ☐ ☐

7) Draw and code some more shapes of your own.
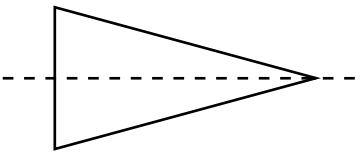
Draw the lines of symmetry on these shapes and work out their codes.

**2)**

Code: ☐ ☐

**1)**

This shape has code **3** **1**

This shape has ☐ sides and ☐ lines of symmetry.
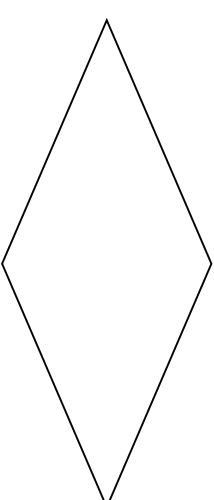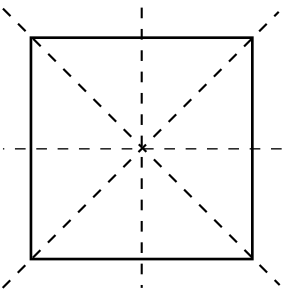
This shape has ☐ sides and ☐ lines of symmetry.

This shape has code ☐ ☐

**3)**

Code: ☐ ☐

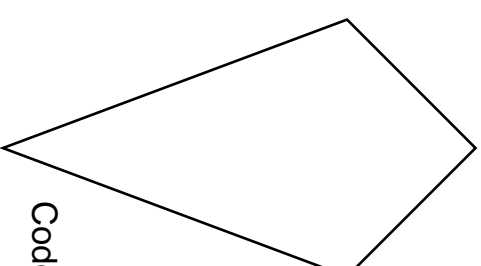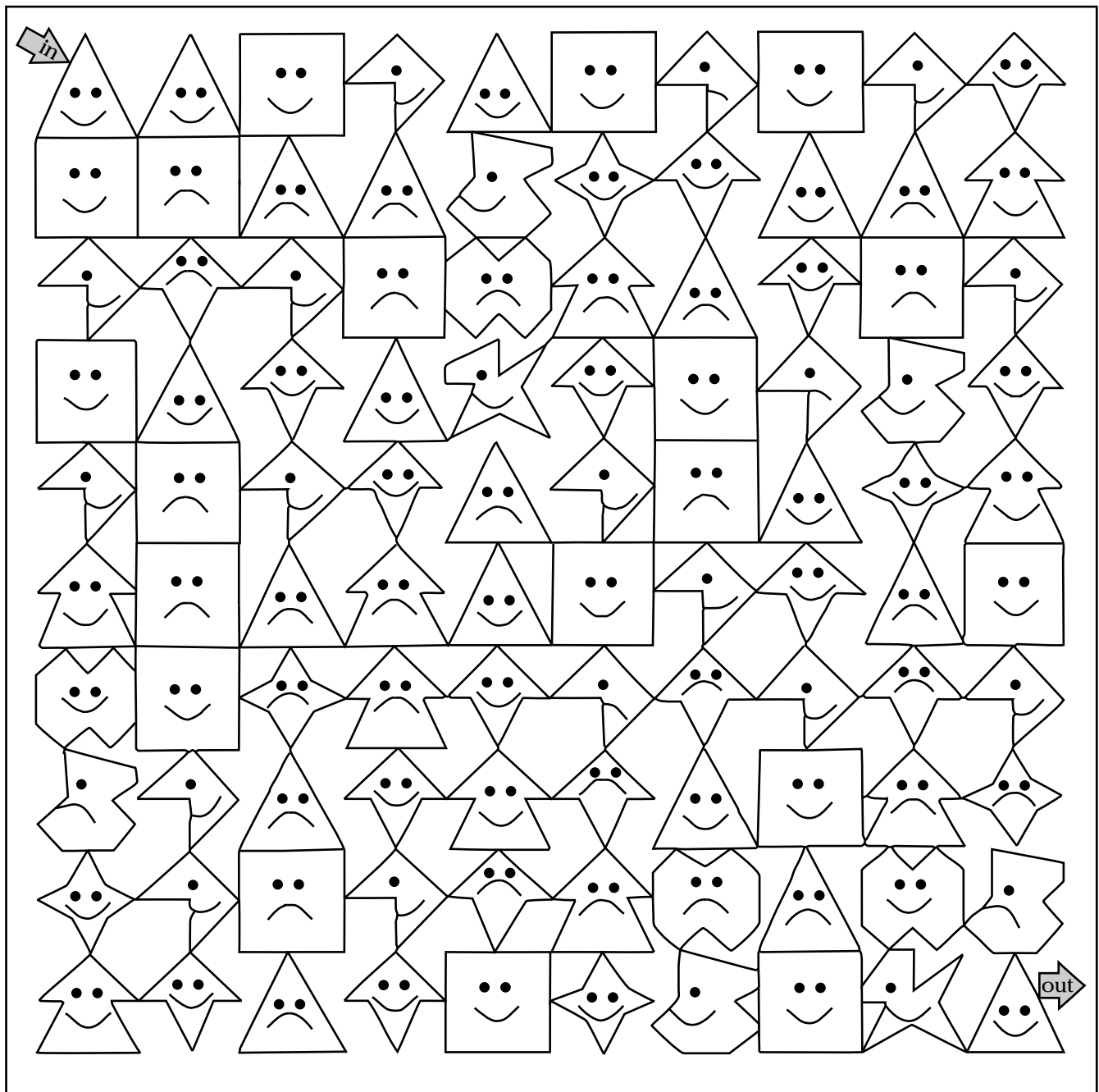# 3 in 1 Maze

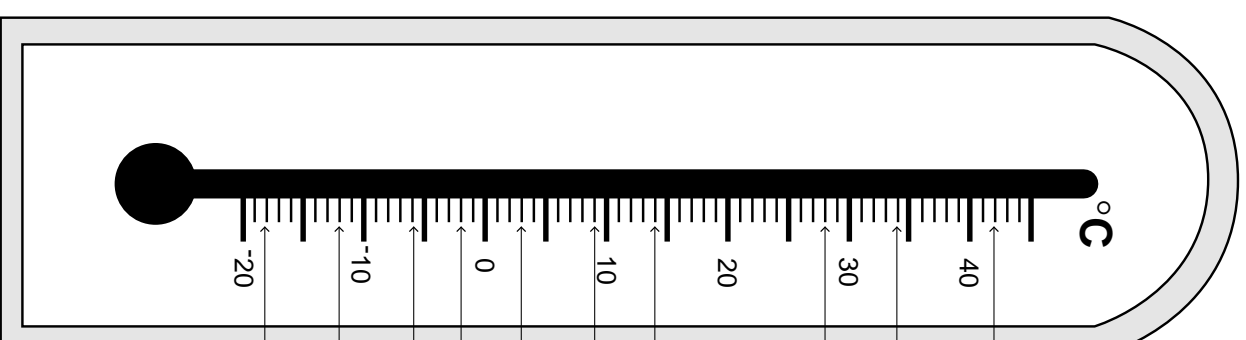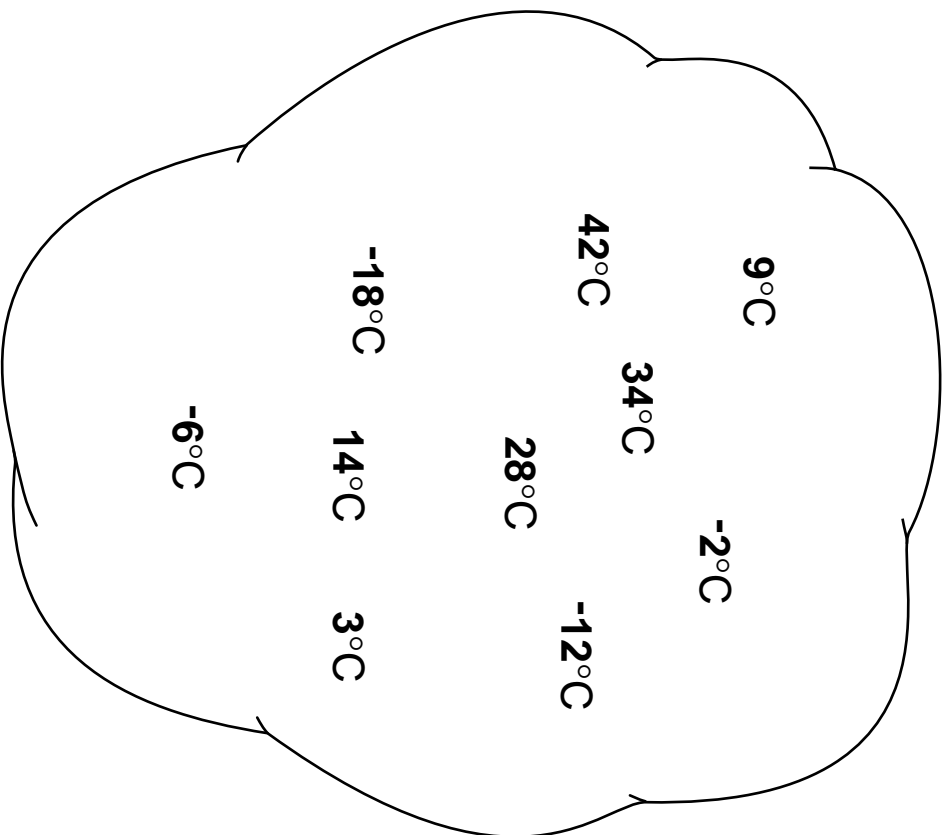You can only travel horizontally or vertically.
Each route runs from the triangle on the top left to the triangle on the bottom right.

1. Can you find a happy route?

2. Can you find a route
   3, 3, 4, 3, 4, 5, 3, 4, 5, 6, ...3?

3. Can you find a route that makes green?
   (You will need to look at the poster before you can answer this.)

# Hot and Cold

Match the temperatures below with the letters on the scale.

9°C

42°C

34°C

-2°C

-18°C

28°C

-12°C

-6°C

14°C

3°C

This thermometer has a Celsius scale (°C).

**°C**

40

30

20

10

0

-10

-20

**A** ☐

**B** ☐

**C** ☐

**D** ☐

**E** ☐

**F** ☐

**G** ☐

**H** ☐

**I** ☐

**J** ☐

*turn over*

Here are some temperatures from around the world, taken on the same day.

| Place | Temperature |
|-------|-------------|
| Alice Springs | 38°C |
| Delhi | 14°C |
| Kingston | 26°C |
| London | 4°C |
| Moscow | -12°C |
| New York | -1°C |
| Beijing | -6°C |
| Rome | 8°C |
| Winnipeg | -19°C |

1. Label the temperatures on this thermometer. (London has been done for you.)

2. In which month of the year do you think these temperatures were taken?

3. Which city is colder, Moscow or Beijing?

4. How much colder is New York than London?

5. Which is colder, -6°C or -10°C?



London (4°C)

°C

-20   -10   0   10   20   30   40
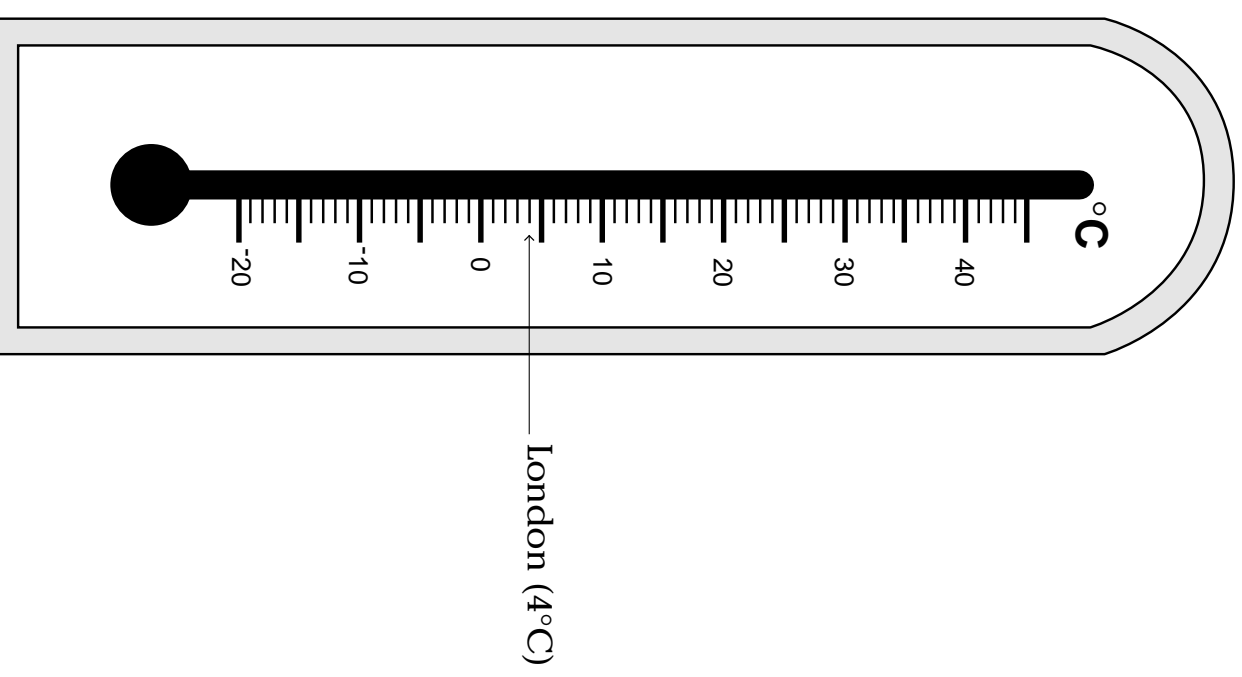
# 4 Sides

• Cut out these shapes.
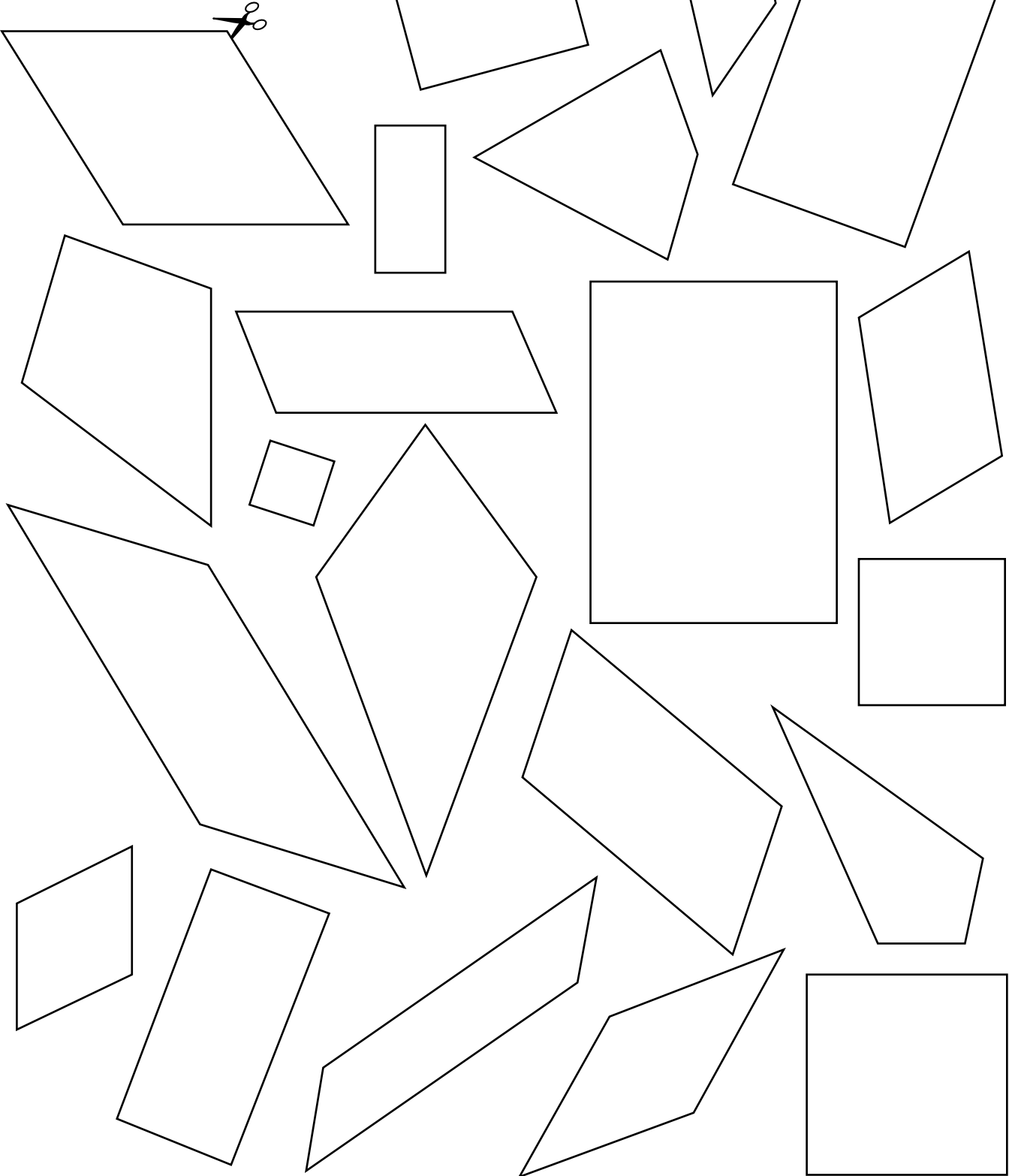
# Surrounding right-angled triangles

Find the area for each square and fill in the table below.

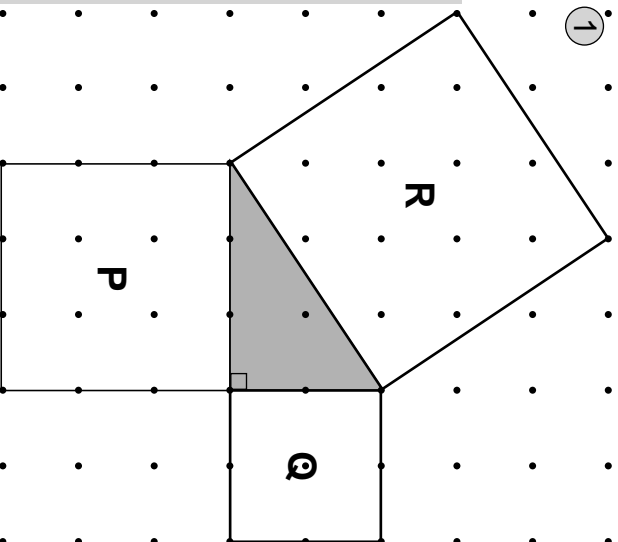| | Area of P | Area of Q | Area of R |
|---|---|---|---|
| 1 | | | 13cm$^2$ |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

What do you notice about the areas of squares P, Q and R?

_____
_____
_____
_____
_____

Without drawing complete the following:

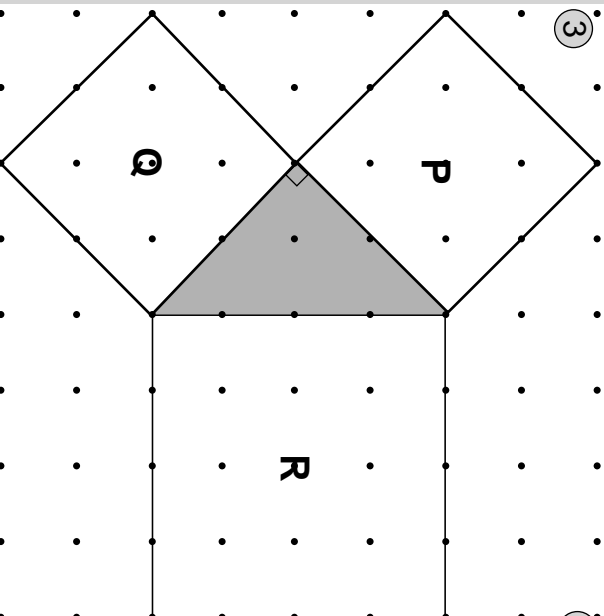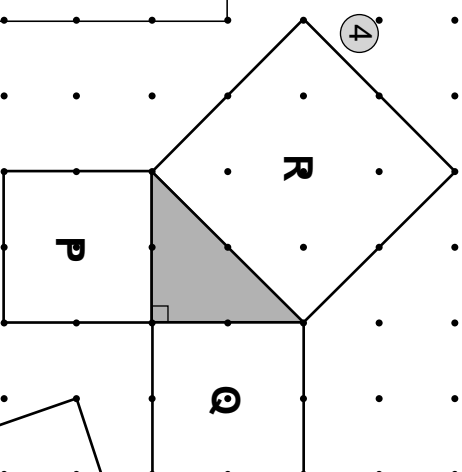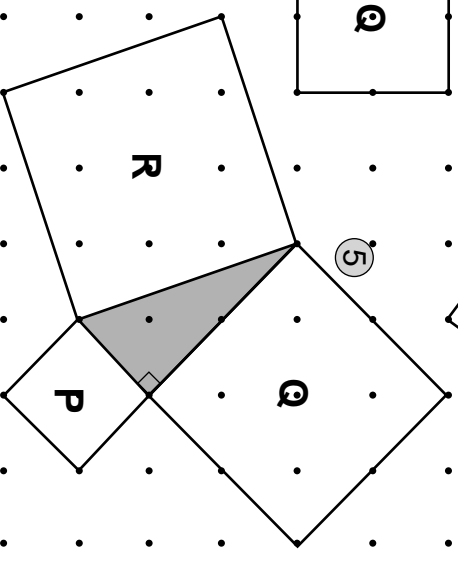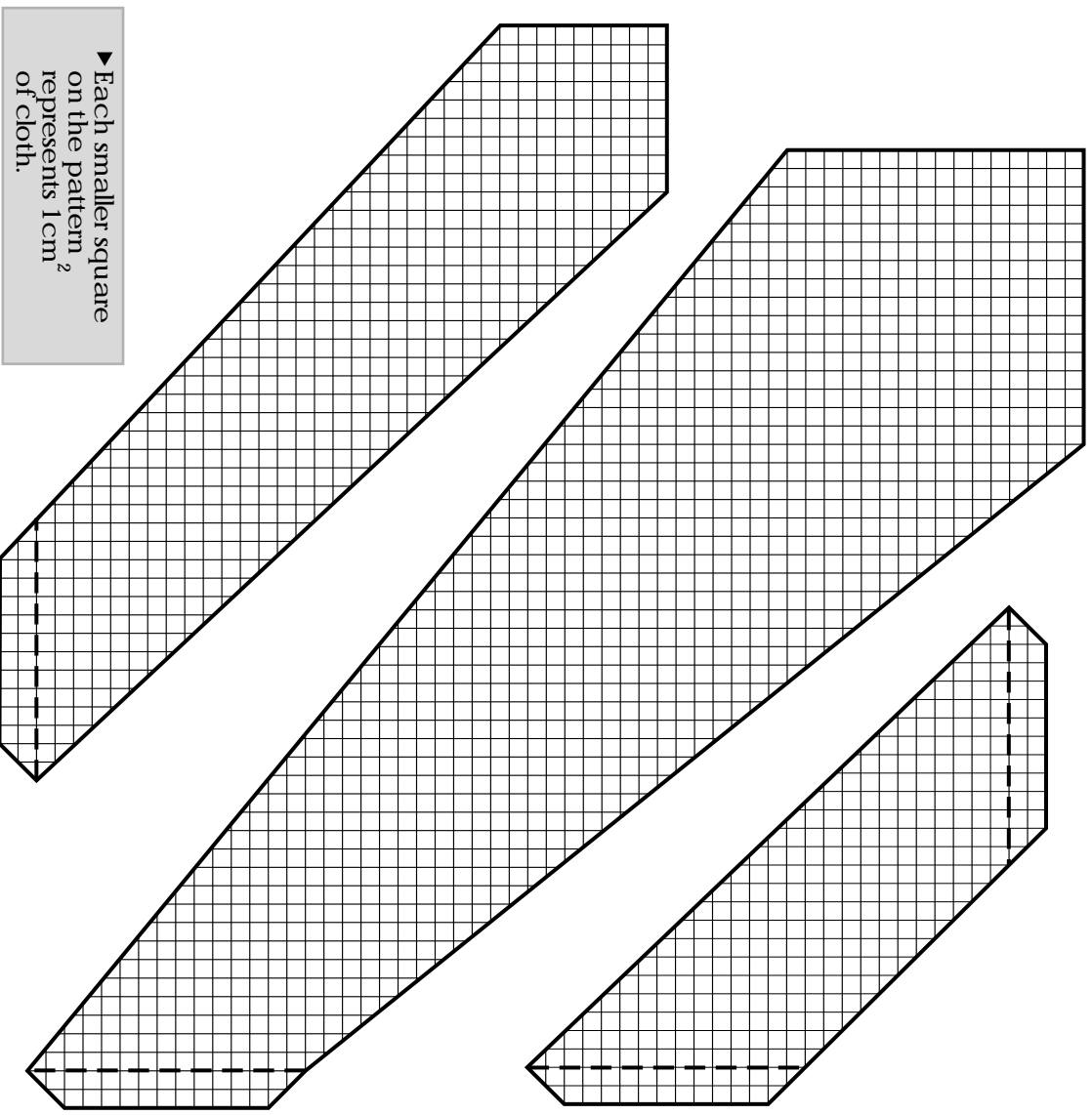| | Area of P | Area of Q | Area of R |
|---|---|---|---|
| 6 | 4cm$^2$ | 16cm$^2$ | |
| 7 | 17cm$^2$ | | 26cm$^2$ |
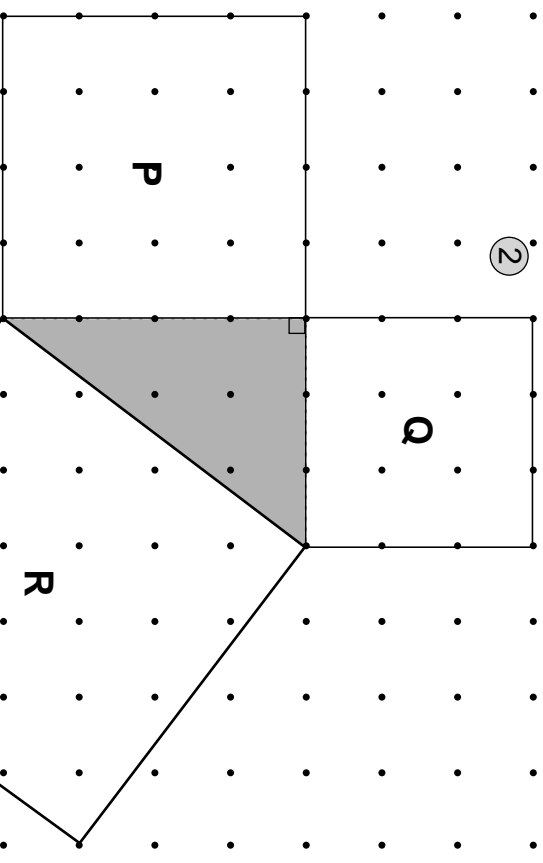


① ② ③ ④ ⑤

# Ties

An activity for a small group.
You will need large sheets of cm² paper.

Ties are made from 3 pieces of cloth cut accurately on the true cross.

- Make a full size pattern for a tie using cm² paper.

  Silk hand-made ties are often made from cloth 1m wide.

- Explore different layouts of the pieces so that the minimum amount of material is wasted.

- What is the shortest length of plain silk you would need to cut out 4 ties?

- Using patterned material or paper, can you lay out the pieces so that when you cut them out and sew them together, there will be no break in the design?

▶ Each smaller square on the pattern represents 1cm² of cloth.

# A Sketchy Activity

$y$

$y=x^2$

$x$

$y$

$y=x^2$

$x$

$y$

$y=x^2$

$x$

$y$

$y=x^2$

$x$

$y$

$y=x^2$

$x$

$y$

$y=x^2$

$x$