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Super Symmetry - Year 3

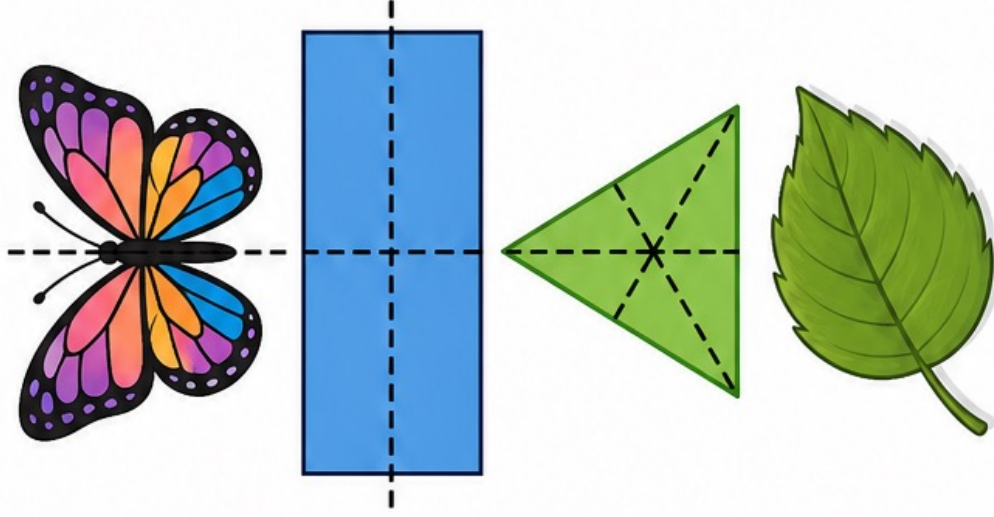
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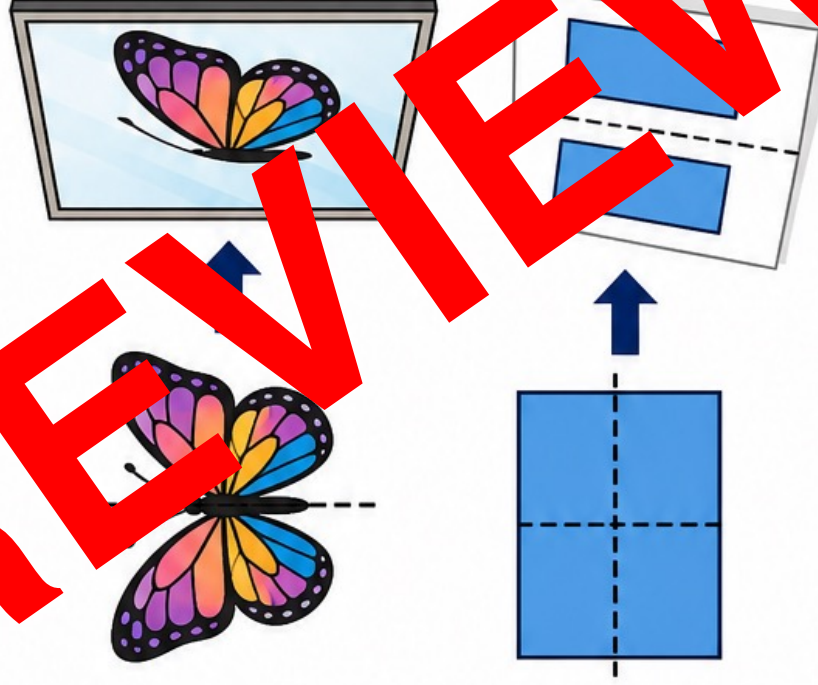
LINE SYMMETRY AT A GLANCE

A line of symmetry divides a shape or picture into two matching mirror halves.

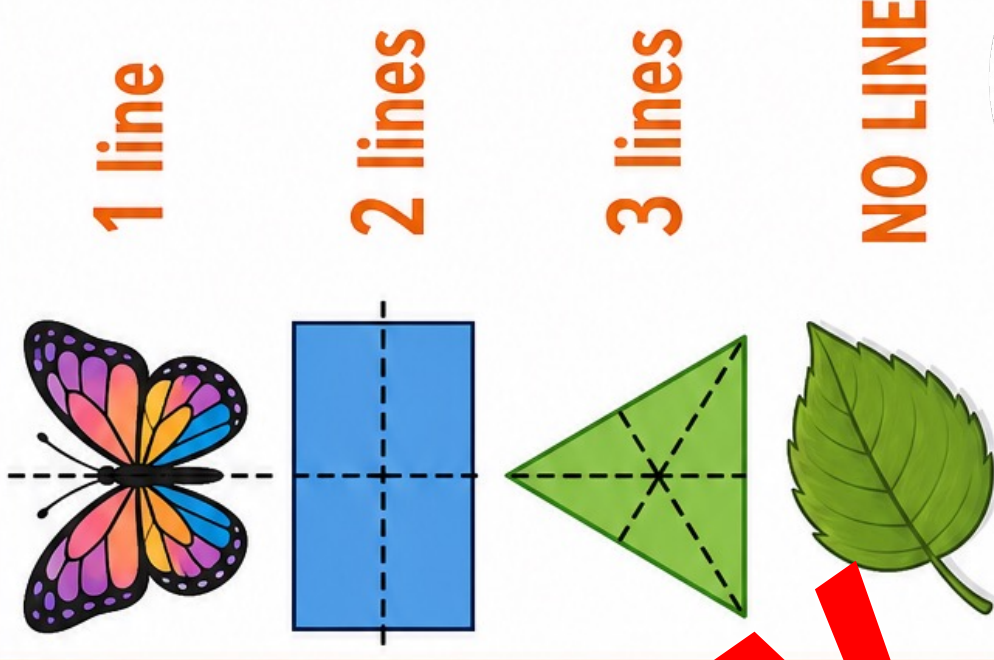
MATCHING HALVES



THE MIRROR TEST



LINES OF SYMMETRY

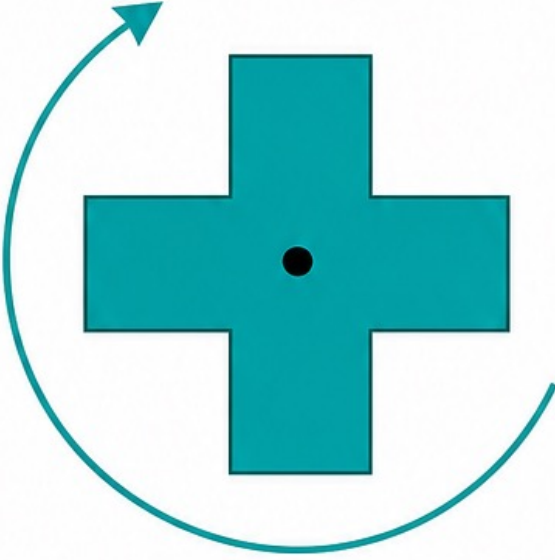


ROTATIONAL SYMMETRY AT A GLANCE



A shape has rotational symmetry when it matches itself before one full turn.

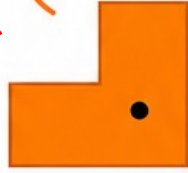
TURN ABOUT THE CENTRE



The shape turns around the **centre point**.

TURN SIZE

Quarter turn = 90°



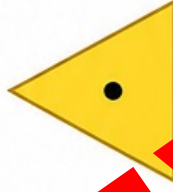
Half turn = 180°



ORDER OF ROTATION



Order 2



Order 3



Order 4

MIRROR MATCH PICTURE CARDS



PREVIEW



MIRROR MATCH

SCORING MATS & RULES



LINE SYMMETRY



NO LINE SYMMETRY

HOW TO PLAY

- 1 Shuffle the picture cards.
- 2 Take turns choosing one card.
- 3 Place it on the correct mat.
- 4 Explain using the fold or mirror test.

Players: 2-4

SYMMETRY SPIN & CREATE

Drawing game for 2-4 players



Spin. Move. Draw the matching prompt.

SYMMETRY SPIN & CREATE

SPINNER & PROMPT TILES



	 Draw a shape with 1 line of symmetry.	 Draw a shape with 2 lines of symmetry.
	 Complete the missing mirror half.	 Add a motif after a quarter turn.
	 Add a motif after a half turn.	 Create a repeating symmetrical border.
	 Name the order of rotation.	 Choose your own symmetry challenge.

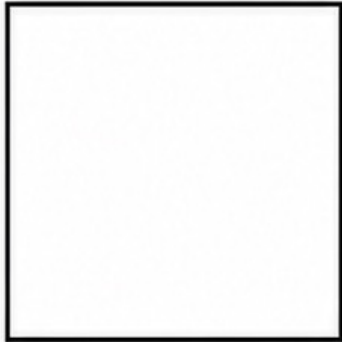
Name: _____

Date: _____

SYMMETRY DETECTIVE — A

Draw every line of symmetry. Write the number.

1.



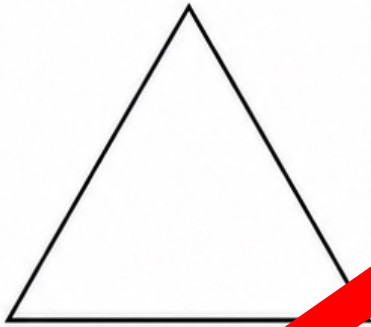
Lines: ____

2.



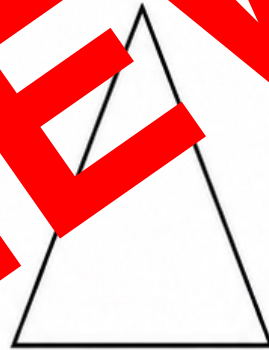
Lines: ____

3.



Lines: ____

4.



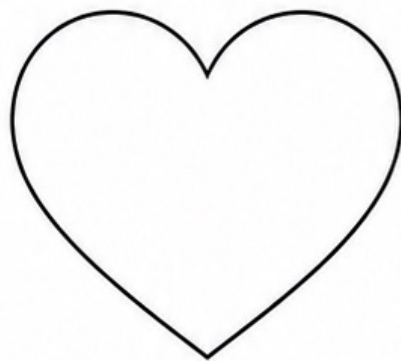
Lines: ____

5.



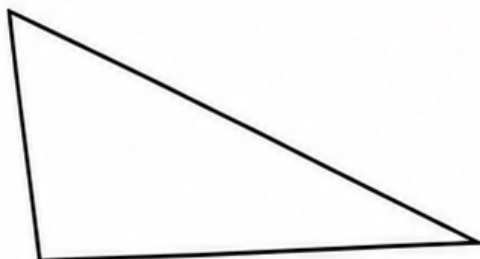
Lines: ____

6.



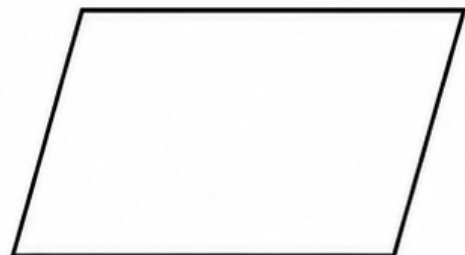
Lines: ____

7.



Lines: ____

8.



Lines: ____

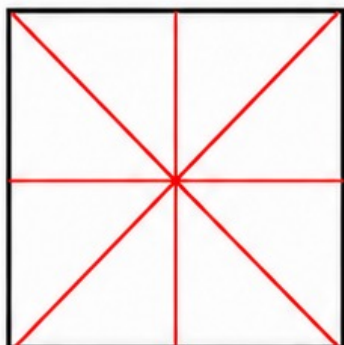
Name: ANSWERS

Date: _____

SYMMETRY DETECTIVE – A

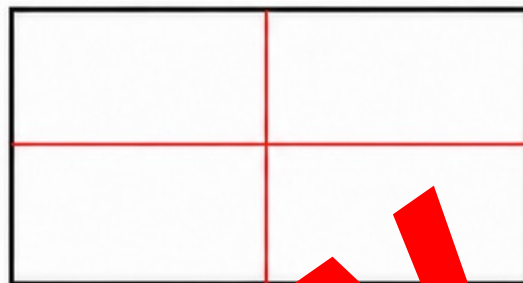
Draw every line of symmetry. Write the number.

1.



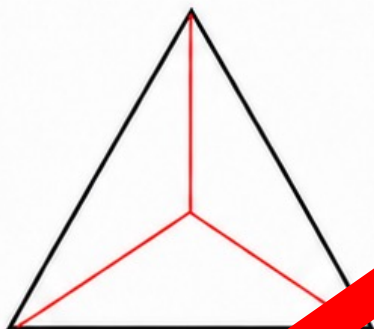
Lines: 4

2.



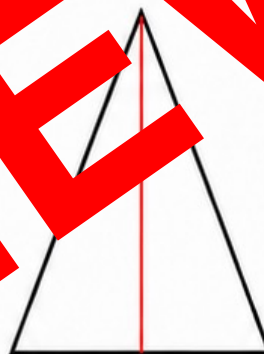
Lines: 2

3.



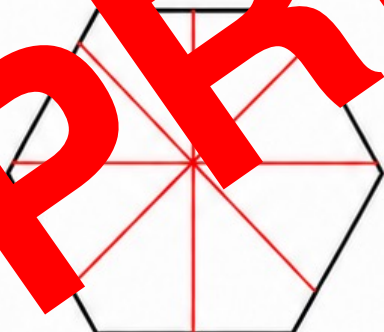
Lines: 3

4.



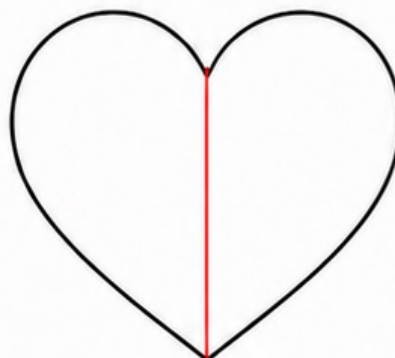
Lines: 1

5.



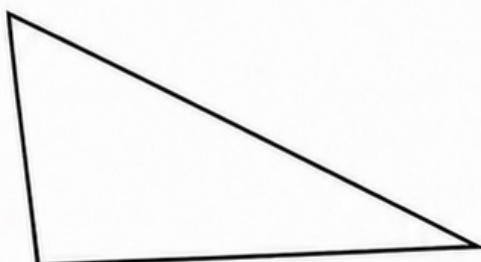
Lines: 6

6.



Lines: 1

7.



Lines: 0

8.



Lines: 0

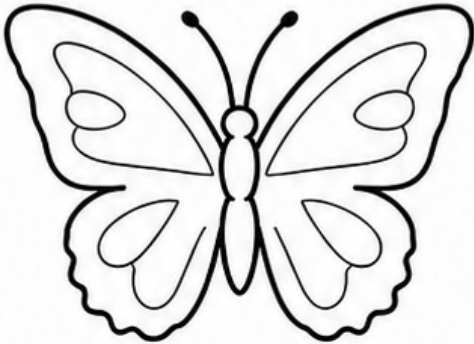
Name: _____

Date: _____

SYMMETRY DETECTIVE – B

Study each object. Circle YES or NO. If YES, draw one line of symmetry.

1.



Line symmetry? YES / NO

2.



Line symmetry? YES / NO

3.



Line symmetry? YES / NO

4.



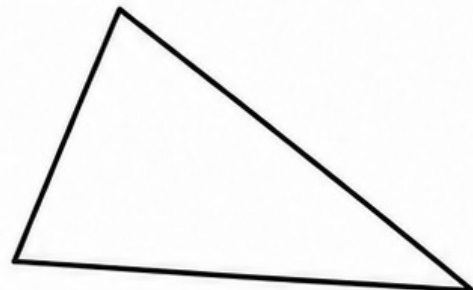
Line symmetry? YES / NO

5.



Line symmetry? YES / NO

6.



Line symmetry? YES / NO

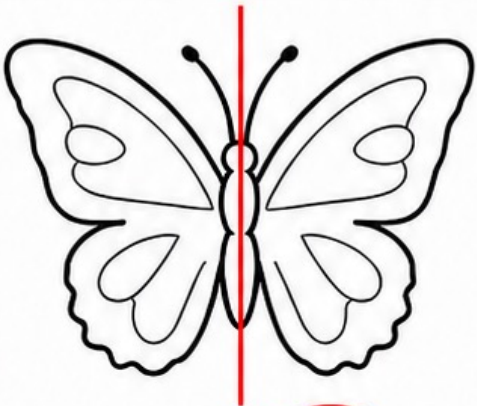
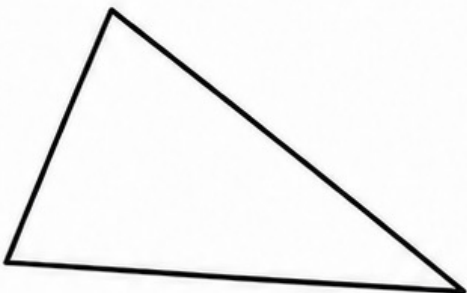
Choose one YES object. Explain how you know.

Name: ANSWERS

Date: _____

SYMMETRY DETECTIVE – B

Study each object. Circle YES or NO. If YES, draw one line of symmetry.

1.  Line symmetry? <u>YES</u> / NO	2.  Line symmetry? YES / <u>NO</u>
3.  Line symmetry? <u>YES</u> / NO	4.  Line symmetry? YES / <u>NO</u>
5.  Line symmetry? <u>YES</u> / NO	6.  Line symmetry? YES / <u>NO</u>

Choose one YES object. Explain how you know.

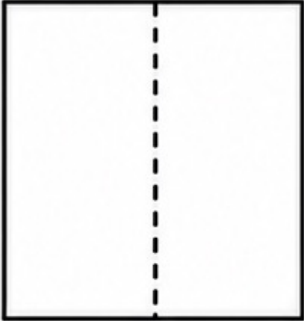
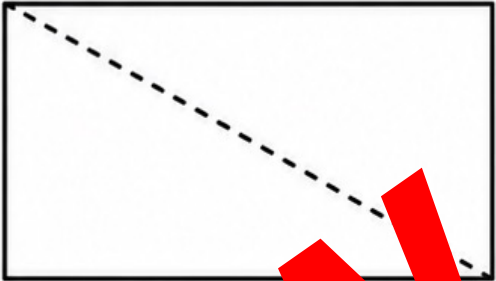
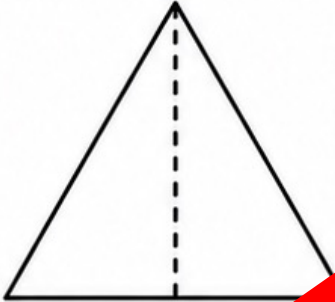
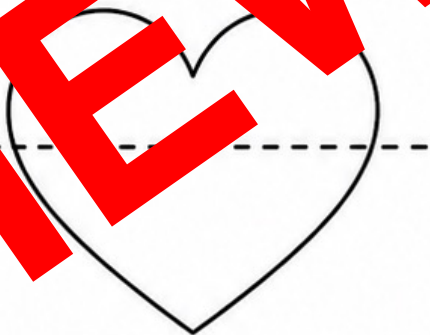
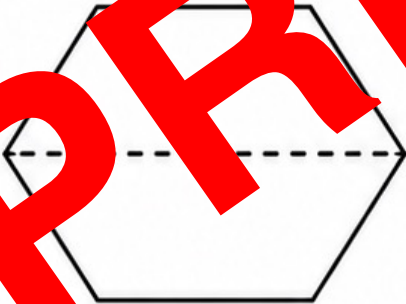
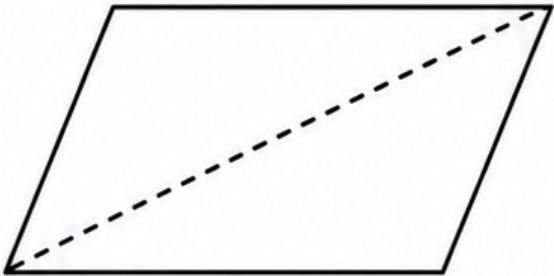
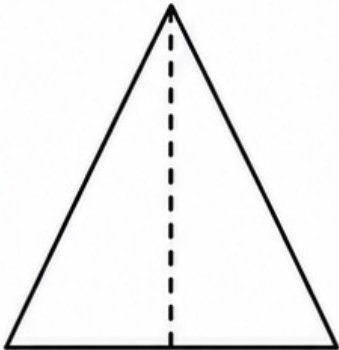
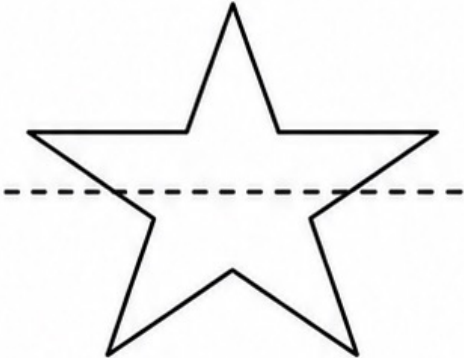
The house has matching halves when folded down the centre.

Name: _____

Date: _____

LINES OF SYMMETRY — A

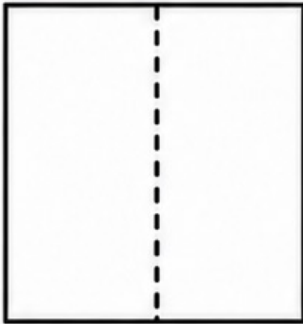
Is the dashed line a correct line of symmetry? Tick YES or NO.

1.  YES / NO	2.  YES / NO
3.  YES / NO	4.  YES / NO
5.  YES / NO	6.  YES / NO
7.  YES / NO	8.  YES / NO

LINES OF SYMMETRY — A

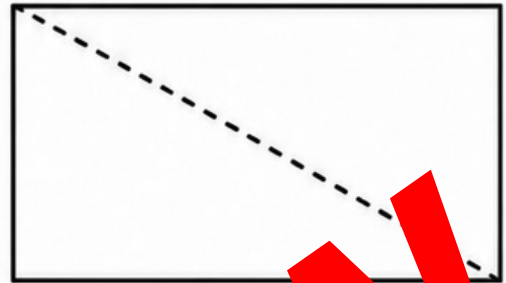
Is the dashed line a correct line of symmetry? Tick YES or NO.

1.



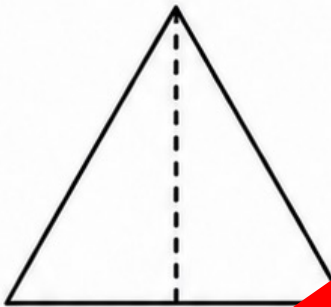
YES / NO

2.



YES / NO

3.



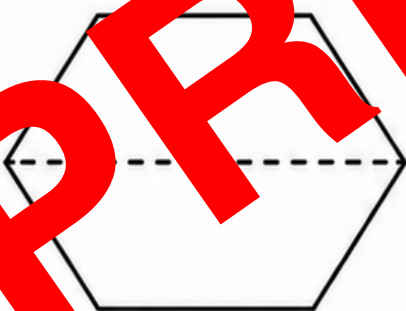
YES / NO

4.



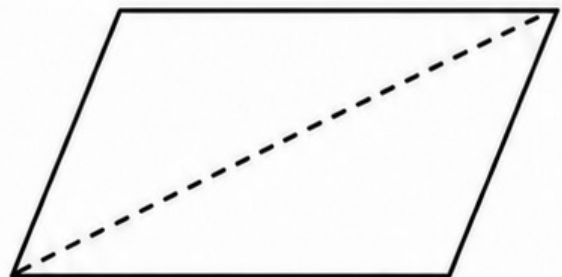
YES / NO

5.



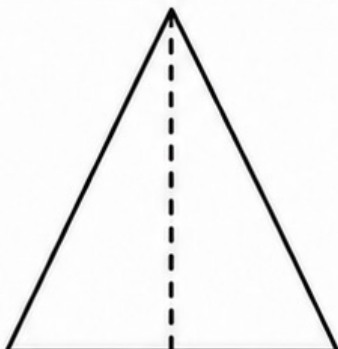
YES / NO

6.



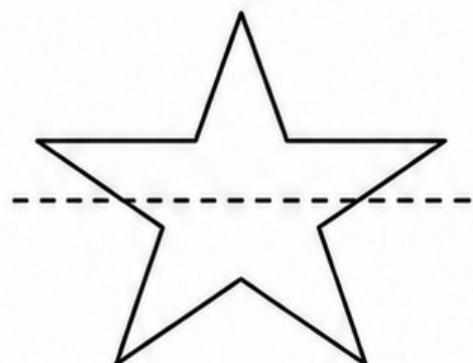
YES / NO

7.



YES / NO

8.



YES / NO

Name: _____

Date: _____

LINES OF SYMMETRY – B

Draw one example for each clue. Then add every line of symmetry.

1 A quadrilateral with 4 lines.

2 A quadrilateral with exactly 2 lines.

3 A triangle with 3 lines.

4 A triangle with exactly 1 line.

5 A shape with no lines.

6 Challenge: two different shapes with exactly 1 line each.

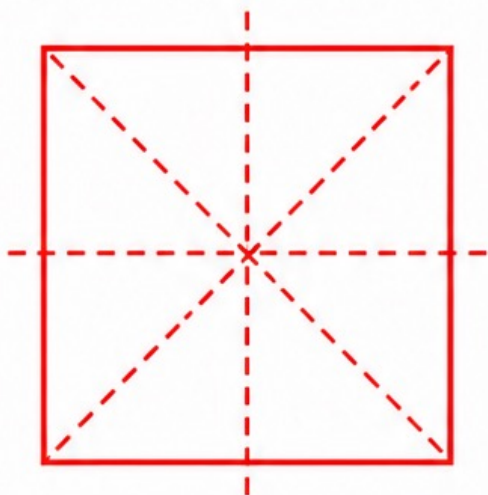
Name: ANSWERS

Date: _____

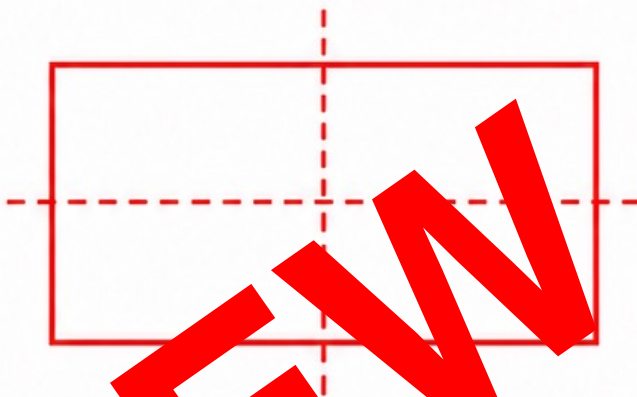
LINES OF SYMMETRY – B

Draw one example for each clue. Then add every line of symmetry.

1 A quadrilateral with 4 lines.



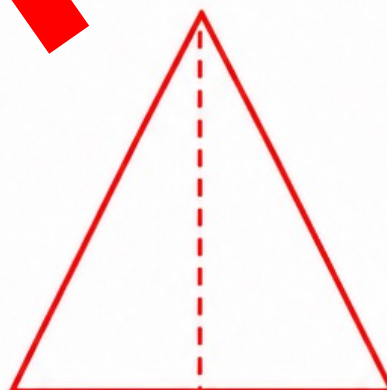
2 A quadrilateral with exactly 2 lines.



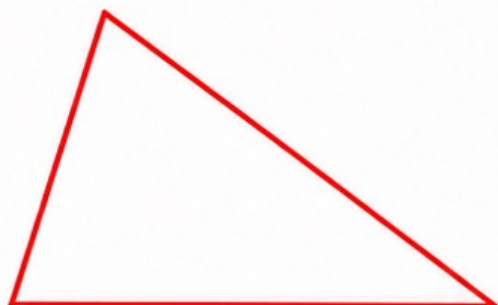
3 A triangle with 3 lines.



4 A triangle with exactly 1 line.

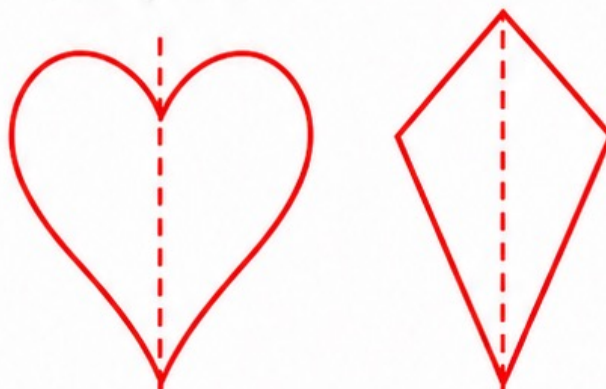


5 A shape with no lines.



0 lines

6 Challenge: two different shapes with exactly 1 line each.



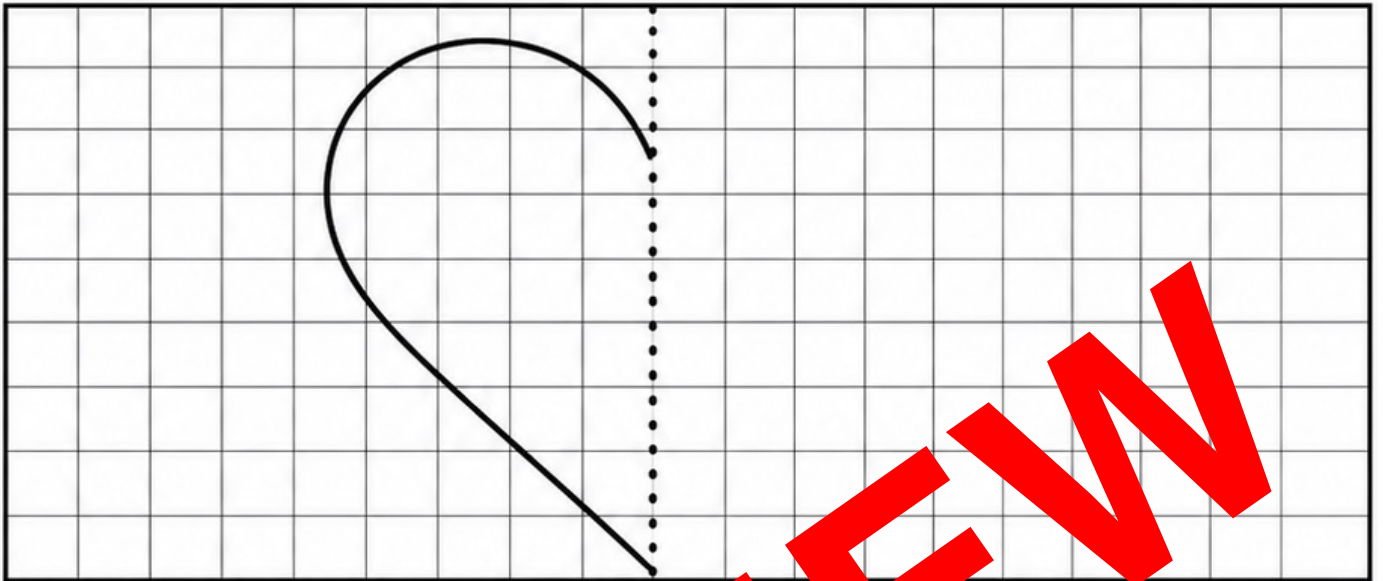
Name: _____

Date: _____

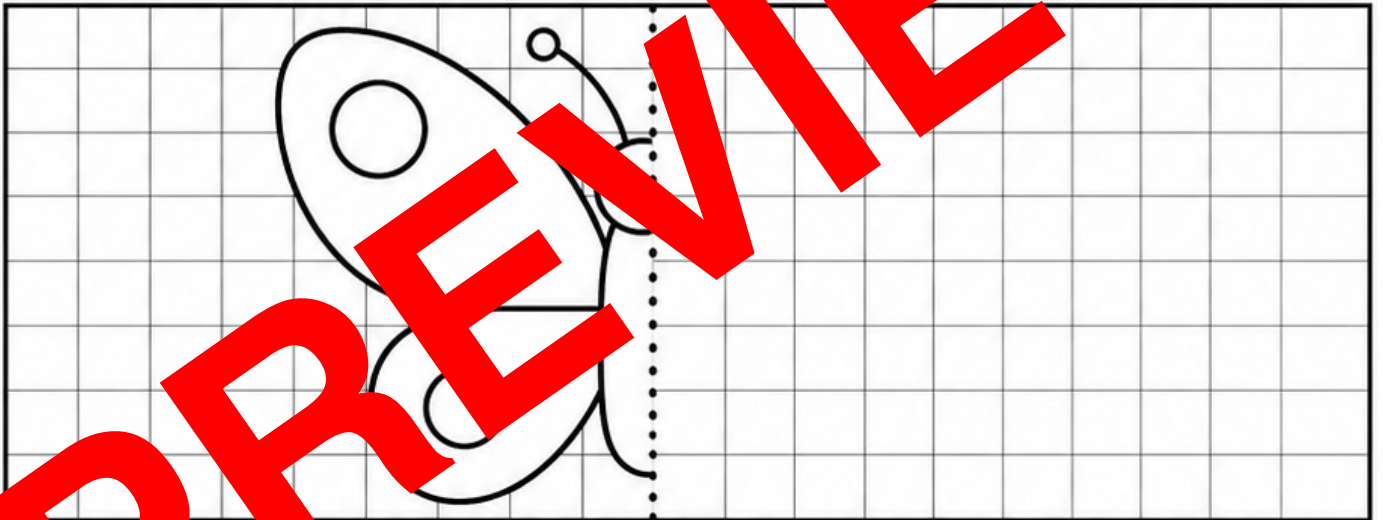
MIRROR GRID CHALLENGES — A

Complete each picture across the dotted mirror line.

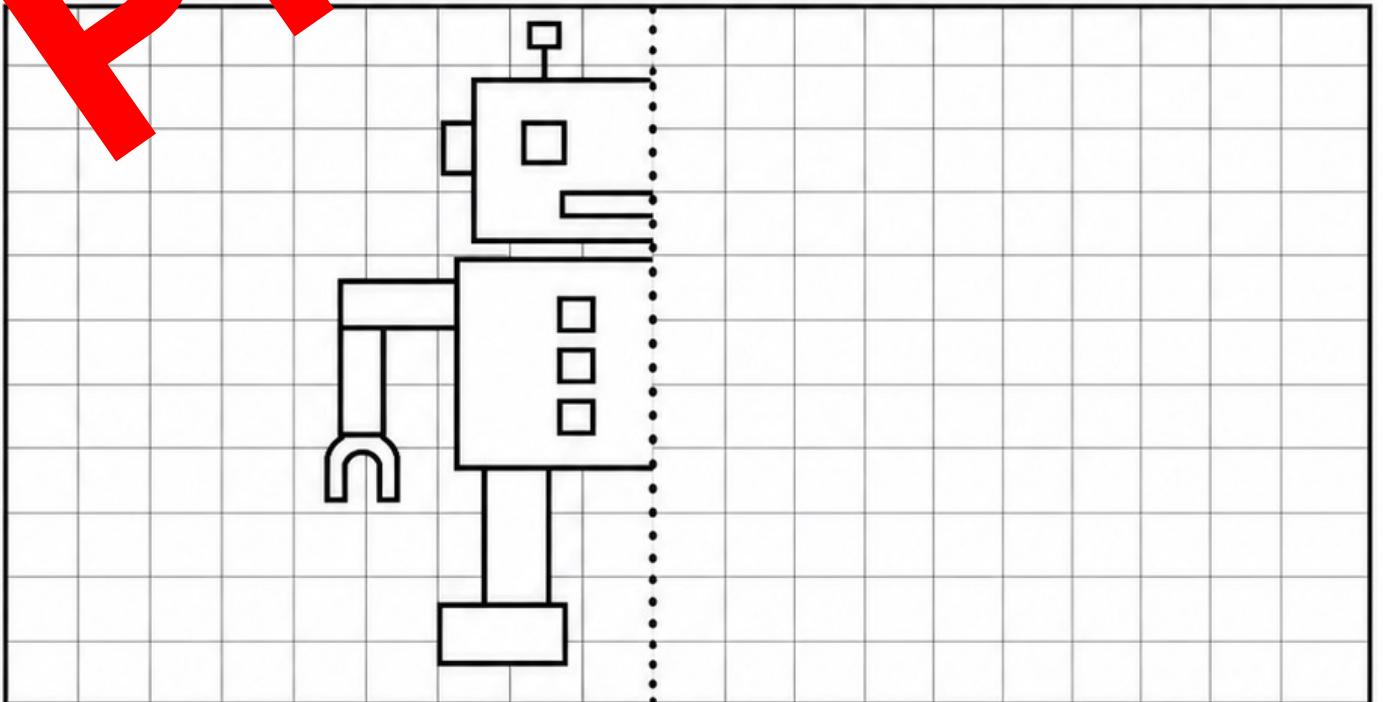
1.



2.



3.



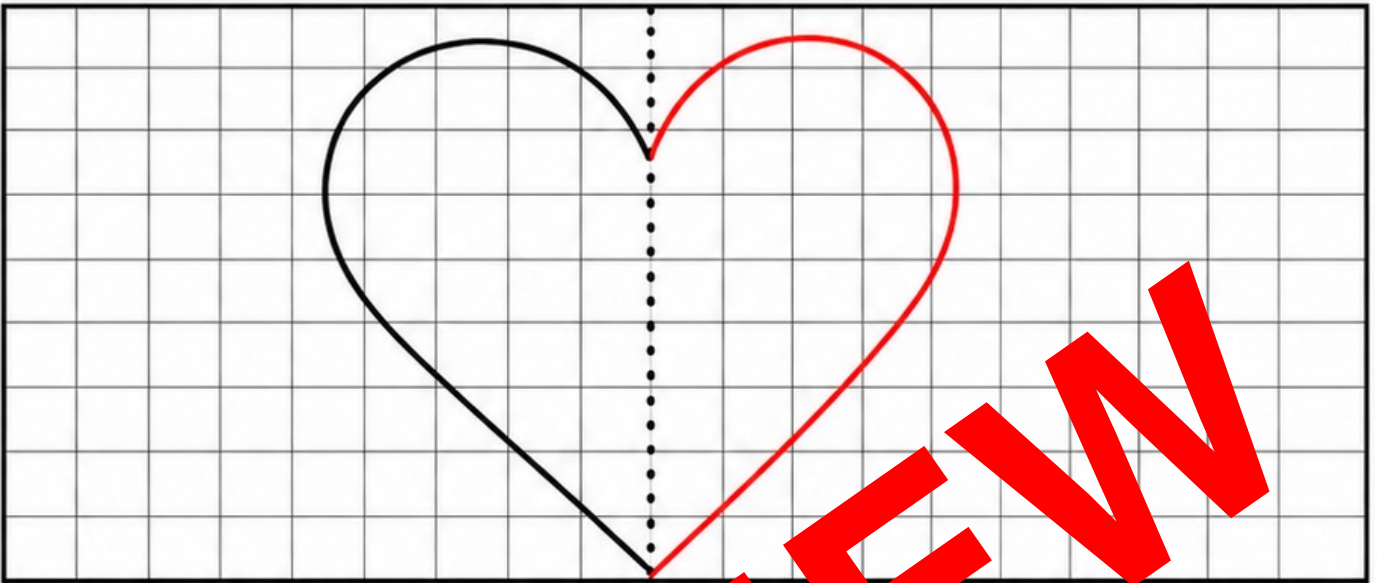
Name: ANSWERS

Date: _____

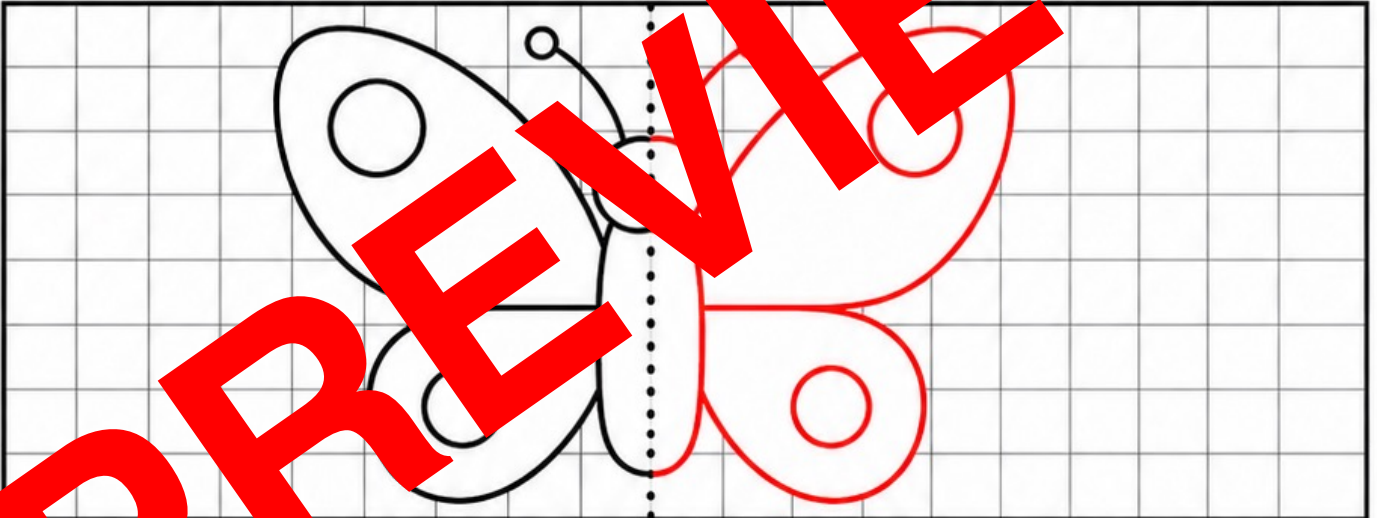
MIRROR GRID CHALLENGES — A

Complete each picture across the dotted mirror line.

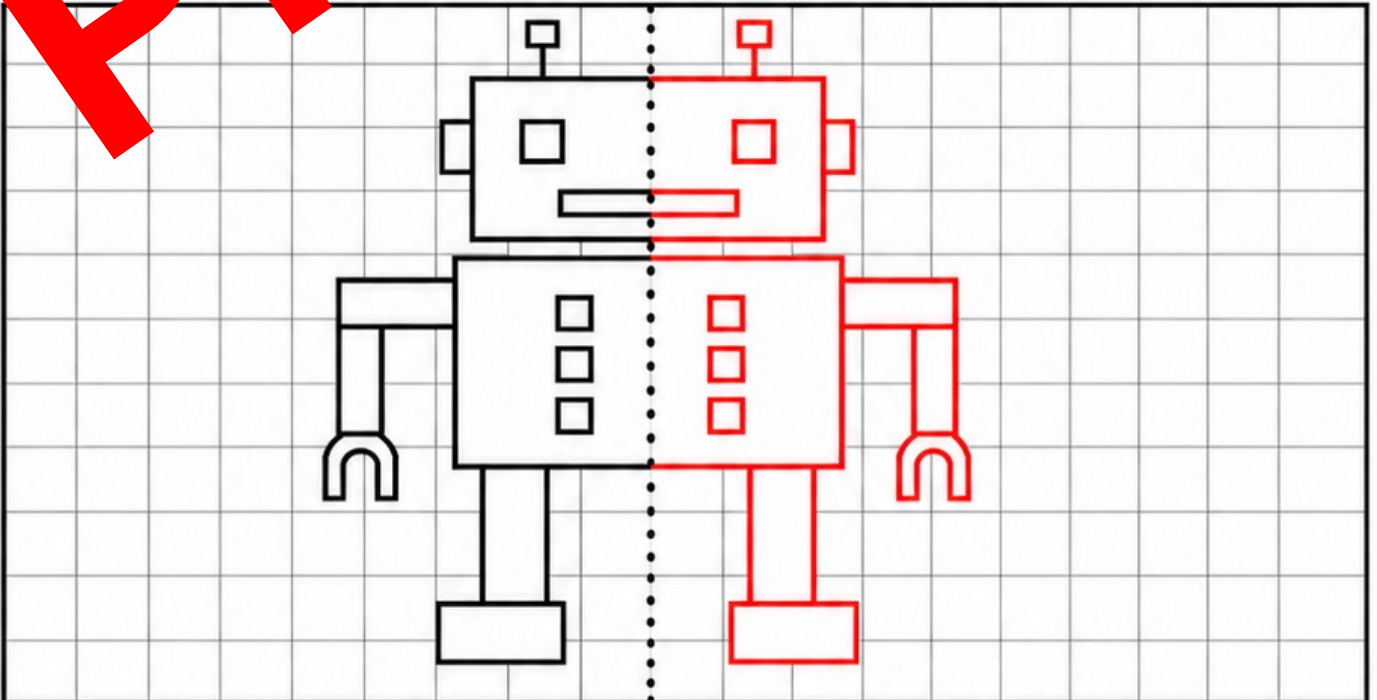
1.



2.



3.



Name: _____

Date: _____

MIRROR GRID CHALLENGES – B

Circle the description of the exact reflection.

1. A star is 2 squares left of a vertical mirror line. Its reflection is: A 2 squares right B 2 squares left C 2 squares above	2. A triangle is 4 squares above a horizontal mirror line. Its reflection is: A 4 squares below B 4 squares left C 4 squares right
3. A dot is 1 square left and 3 squares above a vertical mirror line. Its reflection is: A 1 square right, 3 squares above B 1 square right, 3 squares below C 1 square left, 3 squares above	4. A square is 2 squares right and 1 square below a vertical mirror line. Its reflection is: A 2 left, 1 below B 2 left, 1 above C 2 right, 1 below
5. A heart is 3 squares below a horizontal mirror line. Its reflection is: A 3 squares above B 3 squares below C 3 squares left	6. A flag is 2 squares left and 2 squares above a horizontal mirror line. Its reflection is: A 2 left, 2 below B 2 right, 2 below C 2 left, 2 above

MIRROR GRID CHALLENGES – B

Circle the description of the exact reflection.

1. A star is 2 squares left of a vertical mirror line.
Its reflection is:

☒ **A** 2 squares right
B 2 squares left
C 2 squares above

2. A triangle is 4 squares above a horizontal mirror line.
Its reflection is:

A 4 squares above
☒ **B** 4 squares below
C 4 squares right

3. A dot is 1 square left and 3 squares above a vertical mirror line.
Its reflection is:

☒ **A** 1 right, 3 above
B 1 right, 3 below
C 1 left, 3 above

4. A square is 2 squares right and 1 square below a vertical mirror line.
Its reflection is:

☒ **A** 2 left, 1 below
B 2 left, 1 above
C 2 right, 1 below

5. A heart is 3 squares below a horizontal mirror line.
Its reflection is:

☒ **A** 3 squares above
B 3 squares below
C 3 squares left

6. A flag is 2 squares left and 2 squares above a horizontal mirror line.
Its reflection is:

☒ **A** 2 left, 2 below
B 2 right, 2 below
C 2 left, 2 above

Name: _____

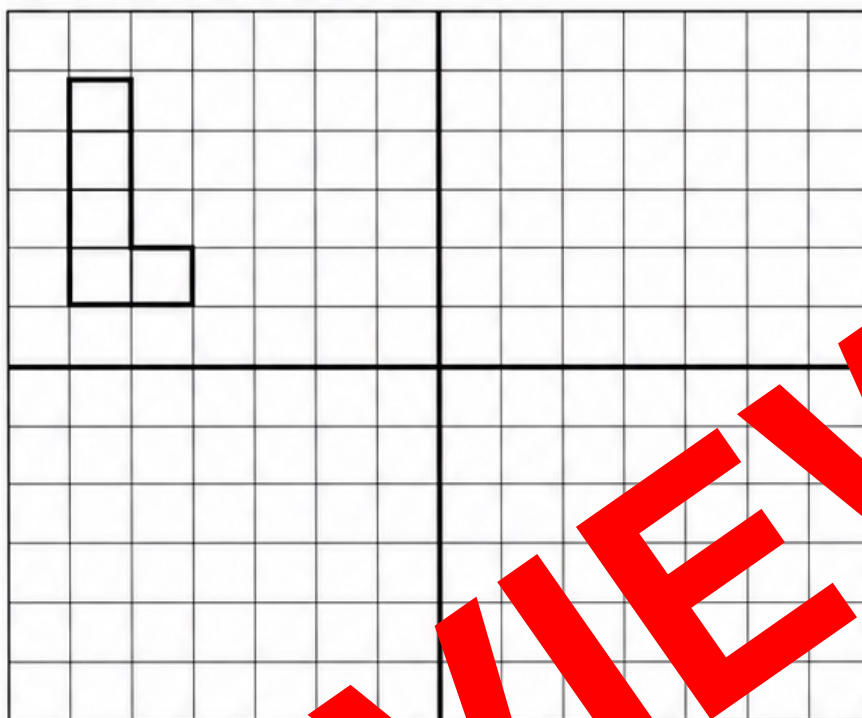
Date: _____

MIRROR GRID CHALLENGES — C

Complete each challenge. Use a ruler.

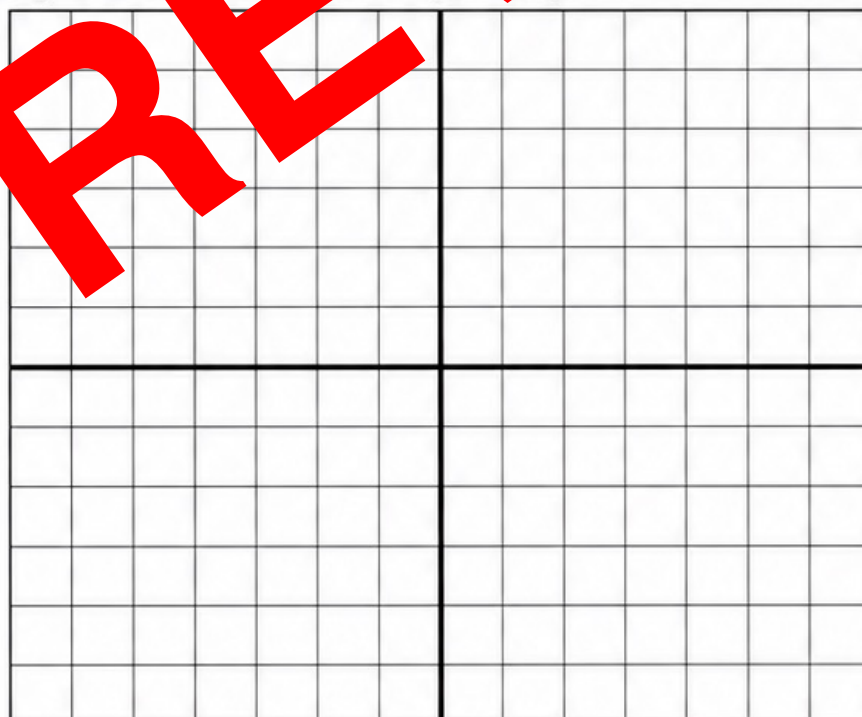
1. DOUBLE REFLECTION

Reflect the motif across both bold mirror lines.



2. DESIGN CHALLENGE

Create a design with at least 2 lines of symmetry.



How can you check your design?

Name: **ANSWERS**

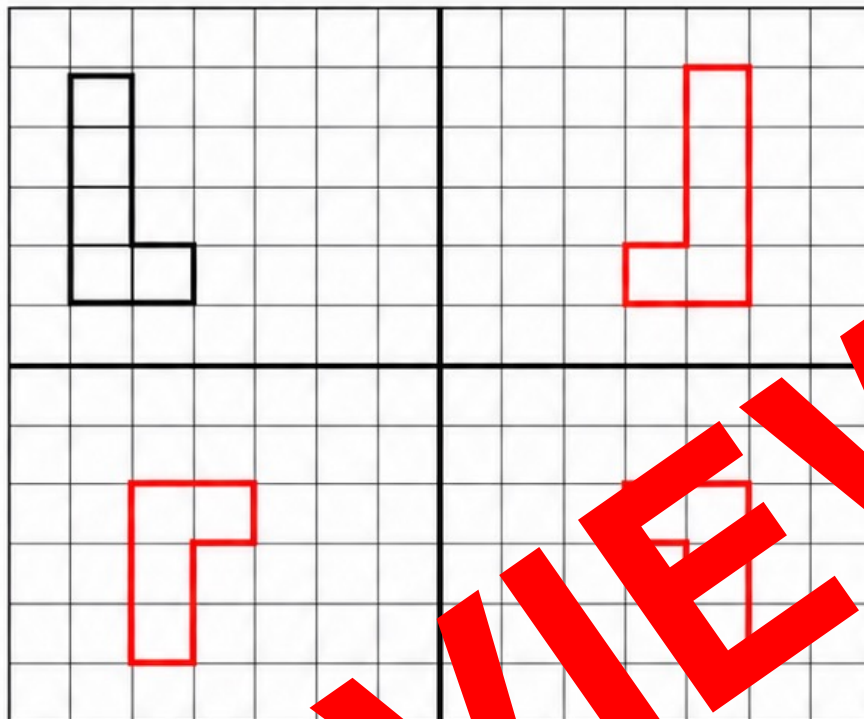
Date: _____

MIRROR GRID CHALLENGES — C

Complete each challenge. Use a ruler.

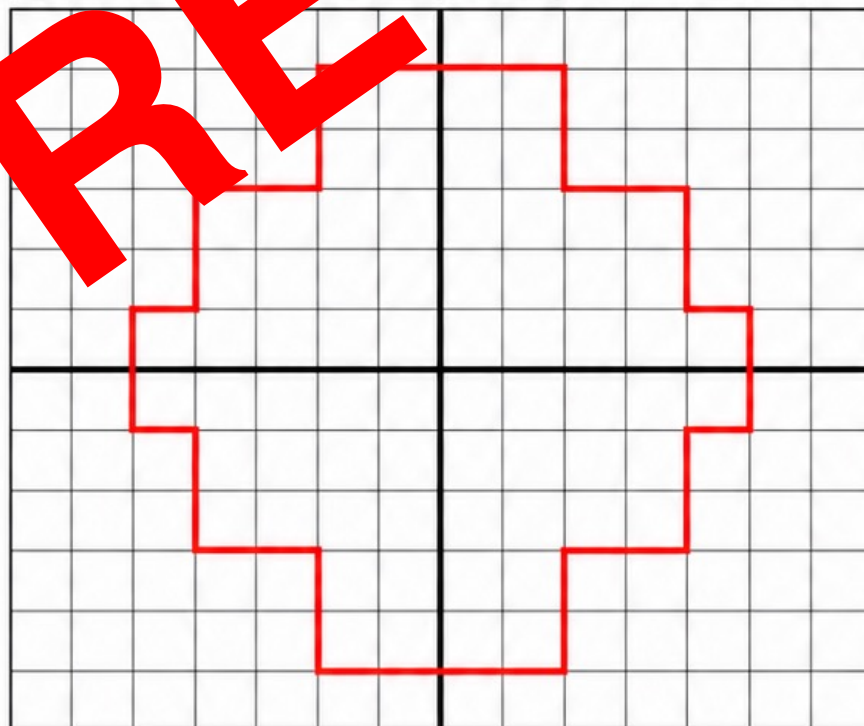
1. DOUBLE REFLECTION

Reflect the motif across both bold mirror lines.



2. DESIGN CHALLENGE

Create a design with at least 2 lines of symmetry.



How can you check your design?

Fold or use a mirror along both lines.

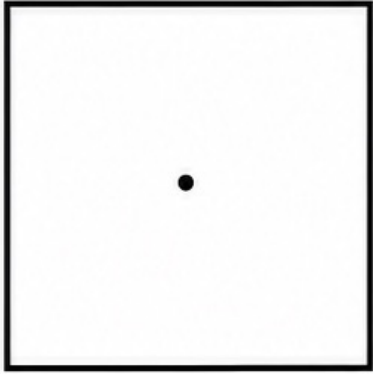
Name: _____

Date: _____

ROTATIONAL SYMMETRY EXPLORER – A

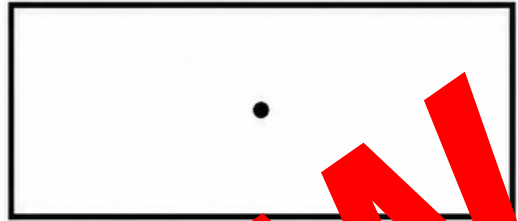
Write the order of rotational symmetry. Write 1 if it only matches after a full turn.

1.



Order: ____

2.



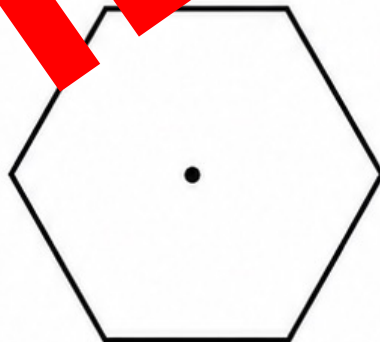
Order: ____

3.



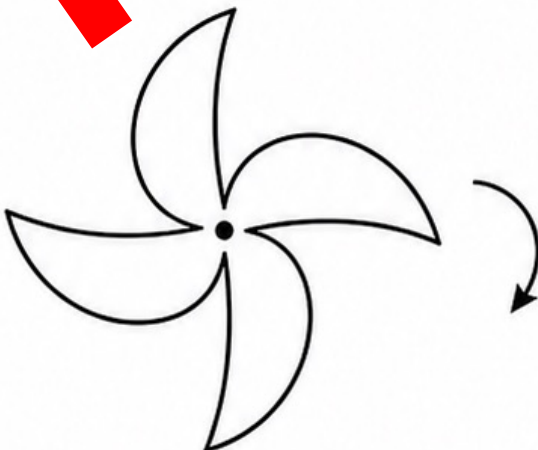
Order: ____

4.



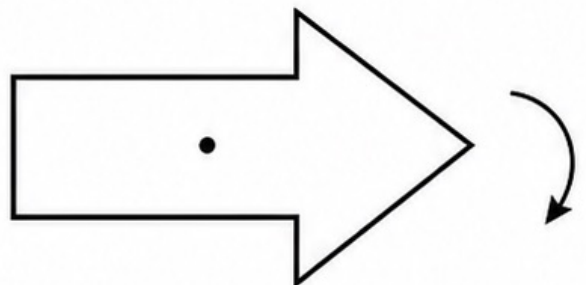
Order: ____

5.



Order: ____

6.



Order: ____

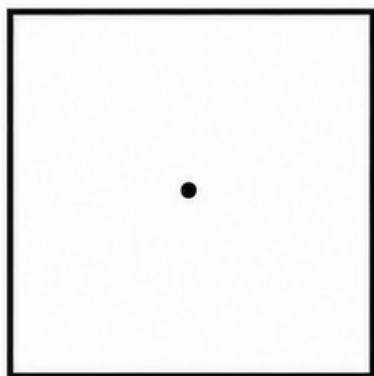
Name: ANSWERS

Date: _____

ROTATIONAL SYMMETRY EXPLORER – A

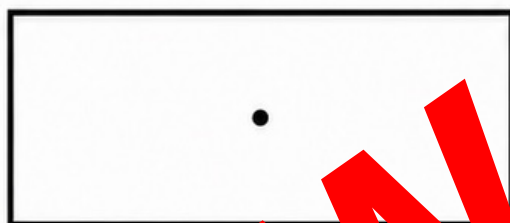
Write the order of rotational symmetry. Write 1 if it only matches after a full turn.

1.



Order: 4

2.



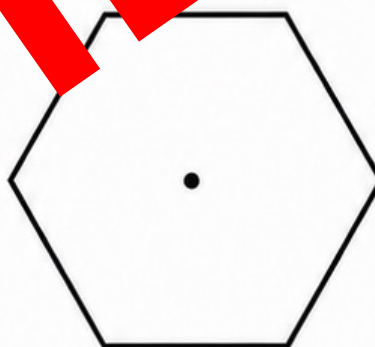
Order: 2

3.



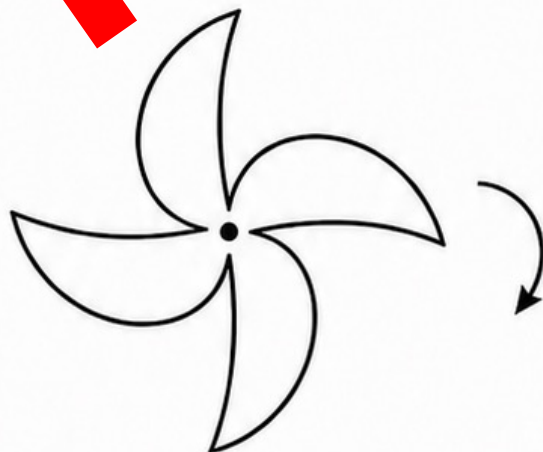
Order: 3

4.



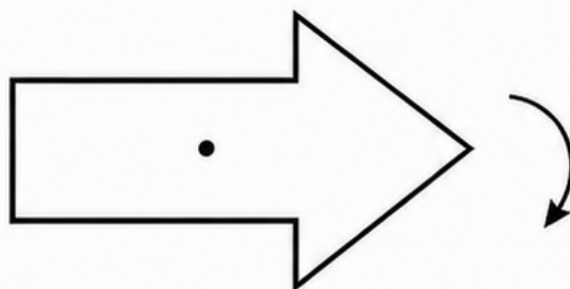
Order: 6

5.



Order: 4

6.



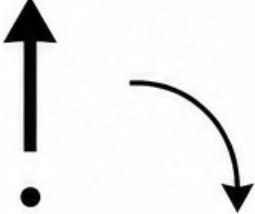
Order: 1

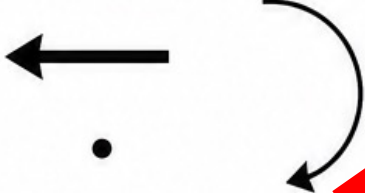
Name: _____

Date: _____

ROTATIONAL SYMMETRY EXPLORER – B

Circle the result after each turn.

1 An arrow points UP. After a quarter turn clockwise it points: 	A  RIGHT	B  DOWN	C  LEFT
---	--	---	---

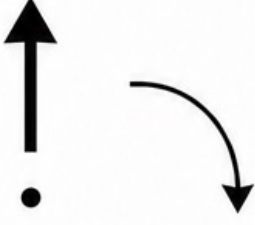
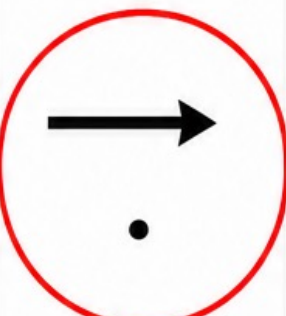
2 An arrow points LEFT. After a half turn it points: 	A  UP	B  RIGHT	C  DOWN
---	--	--	--

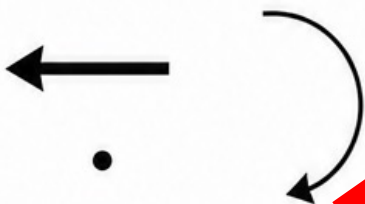
3 An object is ABOVE the centre. After a quarter turn clockwise it is: 	A  LEFT of the centre	B  BELOW the centre	C  RIGHT of the centre
--	---	---	--

4 An object is LOWER-LEFT of the centre. After a quarter turn anticlockwise it is: 	A  UPPER-LEFT	B  LOWER-RIGHT	C  UPPER-RIGHT
--	---	--	--

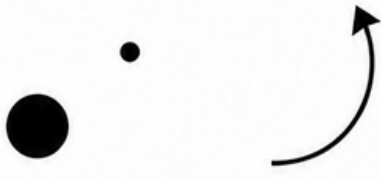
ROTATIONAL SYMMETRY EXPLORER – B

Circle the result after each turn.

1 An arrow points UP. After a quarter turn clockwise it points: 	A  RIGHT	B  DOWN	C  LEFT
---	--	---	---

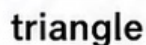
2 An arrow points LEFT. After a half turn it points: 	A  UP	B  RIGHT	C  DOWN
---	--	--	--

3 An object is ABOVE the centre. After a quarter turn clockwise it is: 	A  LEFT of the centre	B  BELOW the centre	C  RIGHT of the centre
--	---	---	--

4 An object is LOWER-LEFT of the centre. After a quarter turn anticlockwise it is: 	A  UPPER-LEFT	B  LOWER-RIGHT	C  UPPER-RIGHT
--	---	--	--

Date: _____

Use the motif bank to create line-symmetrical patterns.



2 LINES

MIRROR BORDER

Matching halves must be the same size and the same distance from the mirror line.

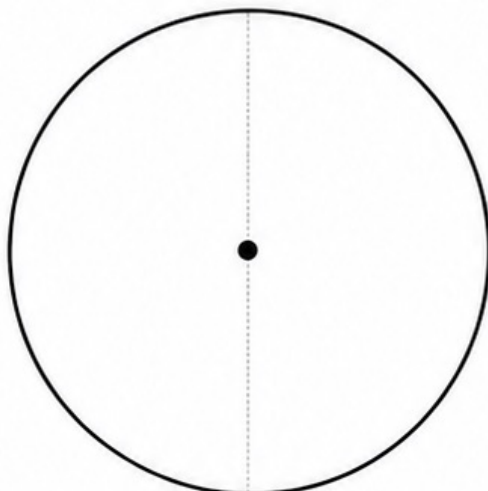
Name: _____

Date: _____

SYMMETRICAL PATTERN DESIGNER – B

Create a pattern with each order of rotational symmetry.

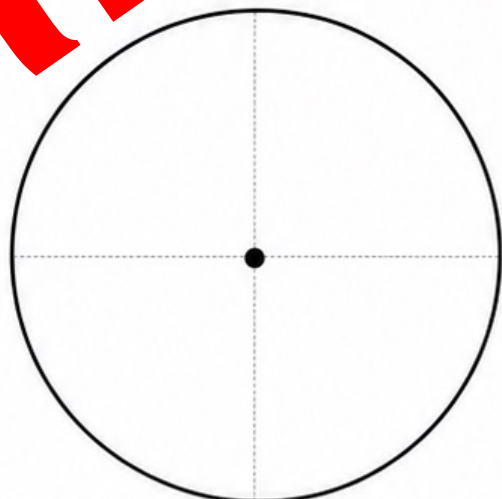
① ORDER 2



② ORDER 3



③ ORDER 4



How will you check that each pattern matches itself?

SYMMETRY HUNT FIELD GUIDE

Name: _____

Date: _____

Team: _____

Find, sketch and classify six examples in your classroom, school or outdoor space.

OBJECT OR LOCATION	QUICK SKETCH	LINE SYMMETRY? none / number of lines	ROTATIONAL SYMMETRY? no / order	EVIDENCE
1.				
2.				
3.				
4.				
5.				
6.				

Which example surprised you most? Why?

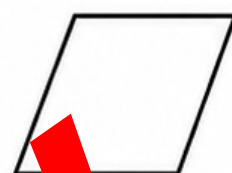
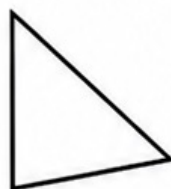
Name: _____

Date: _____

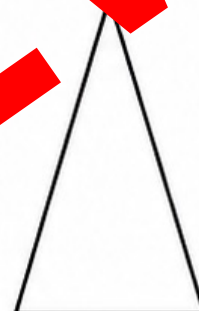
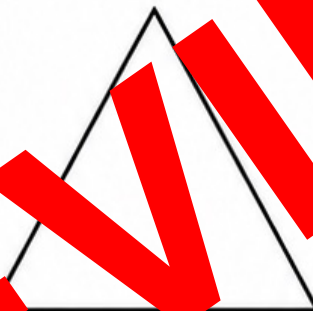
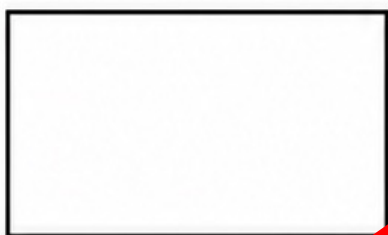
SYMMETRY ASSESSMENT – A

LINE SYMMETRY • 10 MARKS

1. Circle the objects with line symmetry. (3 marks)



2. Draw every line of symmetry. (3 marks)



3. Complete the reflection on fact (2 marks)

a. 5 squares left of a vertical mirror line → _____ squares right.

b. 3 squares above a horizontal mirror line → _____ squares below.

4. Explain two ways to check line symmetry. (2 marks)

TOTAL: _____ / 10

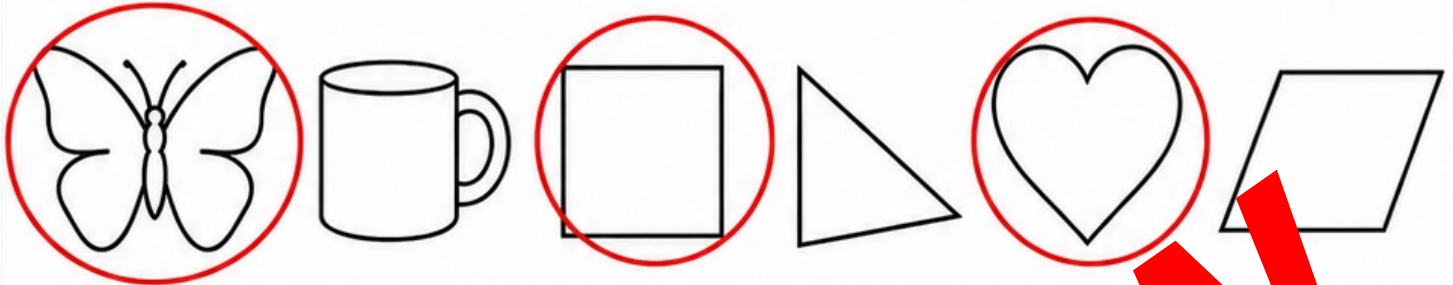
Name: ANSWERS

Date: _____

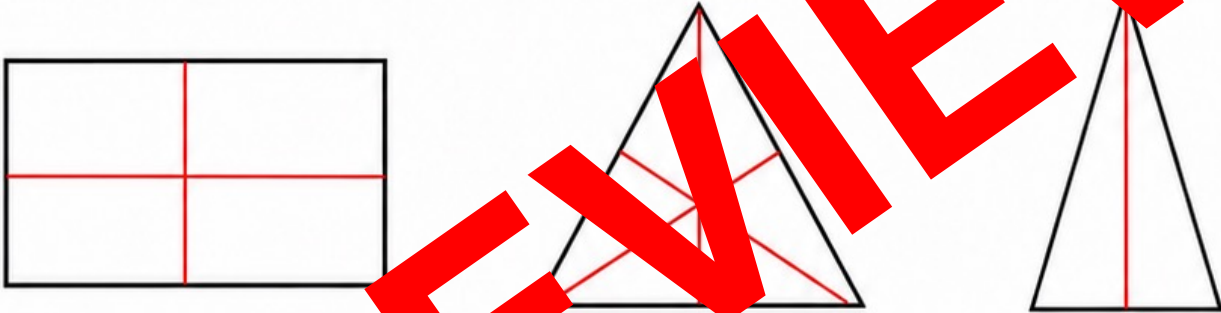
SYMMETRY ASSESSMENT – A

LINE SYMMETRY • 10 MARKS

1. Circle the objects with line symmetry. (3 marks)



2. Draw every line of symmetry. (3 marks)



3. Complete the reflection on fact (2 marks)

a. 2 squares left of a vertical mirror line → 2 squares right.

b. 3 squares above a horizontal mirror line → 3 squares below.

4. Explain two ways to check line symmetry. (2 marks)

Fold the shape so the halves match; use a mirror on the line.

TOTAL: 10 / 10

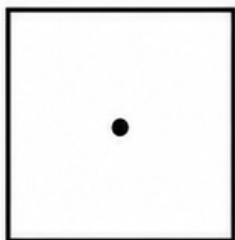
Name: _____

Date: _____

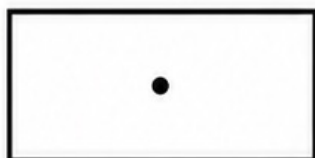
SYMMETRY ASSESSMENT – B

ROTATIONAL SYMMETRY & APPLICATION • 10 MARKS

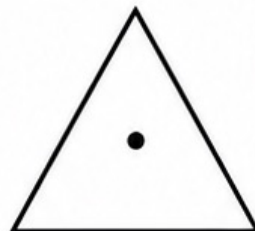
5. Write the order of rotational symmetry. (4 marks)



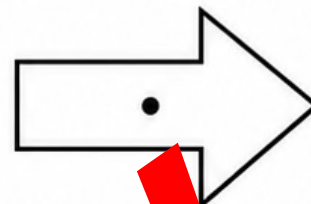
Order: ____



Order: ____



Order: ____



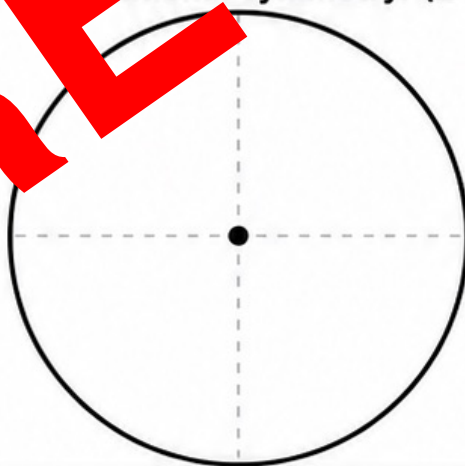
Order: ____

6. Complete each turn fact. (2 marks)

a. An UP arrow after a half turn points ____.

b. An object ABOVE the centre after a quarter turn clockwise is to the ____ of the centre.

7. Create a pattern with order 2 rotational symmetry. (2 marks)



8. Explain how line symmetry and rotational symmetry are different. (2 marks)

TOTAL: ____ / 10

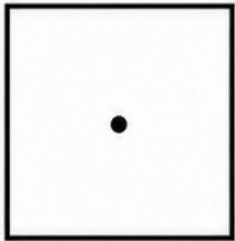
Name: ANSWERS

Date: _____

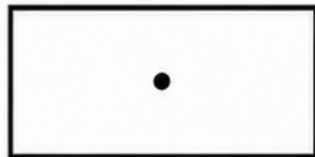
SYMMETRY ASSESSMENT – B

ROTATIONAL SYMMETRY & APPLICATION • 10 MARKS

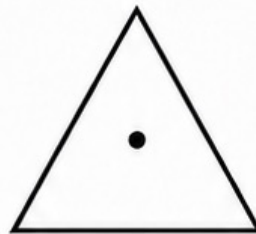
5. Write the order of rotational symmetry. (4 marks)



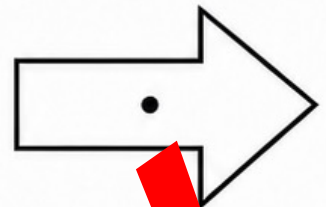
Order: 4



Order: 2



Order: 3



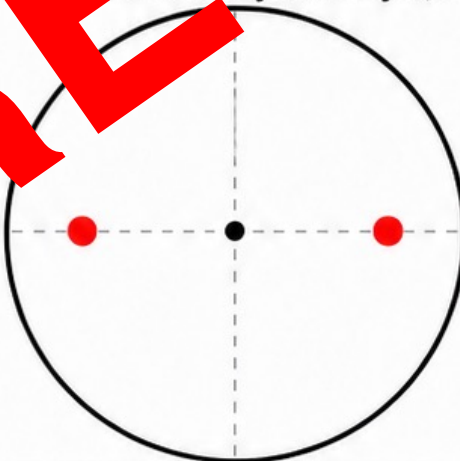
Order: 1

6. Complete each turn fact. (2 marks)

a. An UP arrow after a half turn points DOWN.

b. An object ABOVE the centre after a quarter turn clockwise is to the RIGHT of the centre.

7. Create a pattern with order 2 rotational symmetry. (2 marks)



8. Explain how line symmetry and rotational symmetry are different. (2 marks)

Line symmetry uses matching mirror halves. Rotational symmetry matches after a turn.

TOTAL: 10 / 10

SUPER SYMMETRY ASSESSMENT RUBRIC

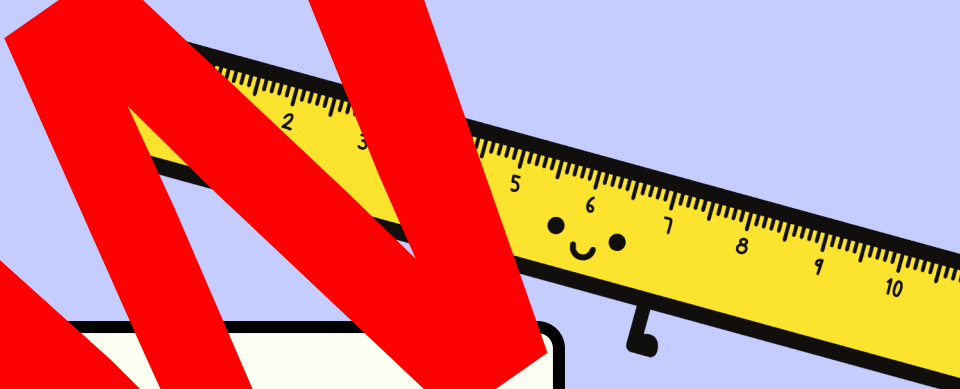
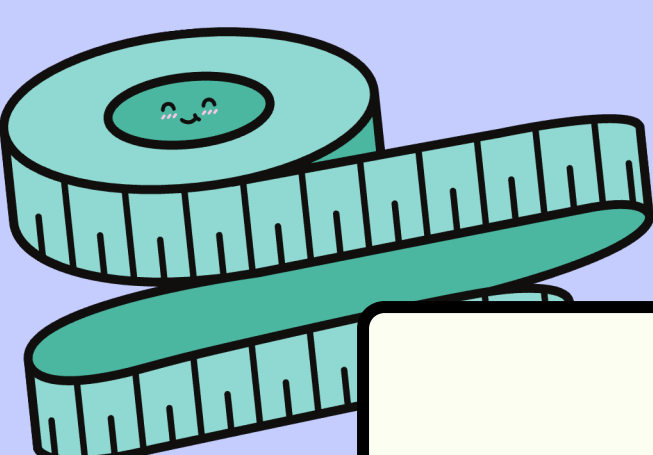
Student: _____

Date: _____

Score: _____ / 25

CRITERION	5 — EXCEEDING	4 — CONFIDENT	3	2 — DEVELOPING	1 — BEGINNING	SCORE
Identifies and classifies line symmetry	Accurately identifies and classifies all line symmetry in shapes independently and explains thinking clearly.	Accurately identifies and classifies most line symmetry in shapes independently with clear reasoning.	Identifies and classifies most line symmetry in shapes independently with some minor mistakes.	Identifies some line symmetry but classification is often incomplete or sometimes incorrect.	Limited evidence of identifying or classifying line symmetry; uses support.	
Draws symmetry lines and completes reflections	Draws accurate symmetry lines and completes all reflections precisely and neatly independently.	Draws accurate symmetry lines and completes most reflections correctly with minor errors.	Draws some line symmetry correctly and completes most reflections with minor errors.	Draws some lines correctly and completes some reflections with several errors.	Limited accuracy drawing lines or completing reflections; uses support.	
Recognises rotational symmetry and states order	Recognises all rotational symmetry and states the correct order for each with clear explanations independently.	Recognises most rotational symmetry and states the order correctly with clear reasoning.	Recognises some rotational symmetry and states the order with minor errors.	Identifies some rotational symmetry but order is often incorrect or not stated.	Limited evidence of recognising rotational symmetry or stating order; uses support.	
Applies turns and creates symmetrical patterns	Applies turns accurately and creates symmetrical patterns that are complete, creative and independently explained.	Applies turns accurately and creates mostly symmetrical patterns with clear explanations.	Applies some turns accurately and creates some symmetrical patterns with minor errors.	Applies some turns correctly but patterns show several inconsistencies.	Limited accuracy applying turns or creating symmetrical patterns; uses support.	
Explains and checks mathematical reasoning	Explains reasoning thoroughly and checks work carefully; identifies and corrects any mistakes independently.	Explains reasoning clearly and checks work carefully with minor improvements needed.	Explains reasoning partly and checks work with some support.	Explanation is incomplete and checking is limited or inconsistent.	Limited explanation of reasoning and checking; uses support.	

Teacher feedback: _____



Summer Symmetry

PREVIEW

Super Symmetry Quiz

