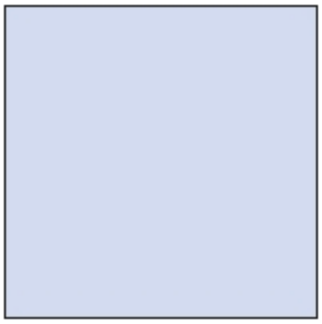
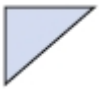
1. Sita had a square.



She cut a triangle of this size off **each** corner.



What is the name of the shape that is left?

Tick **one**.

square ☐

pentagon ☐

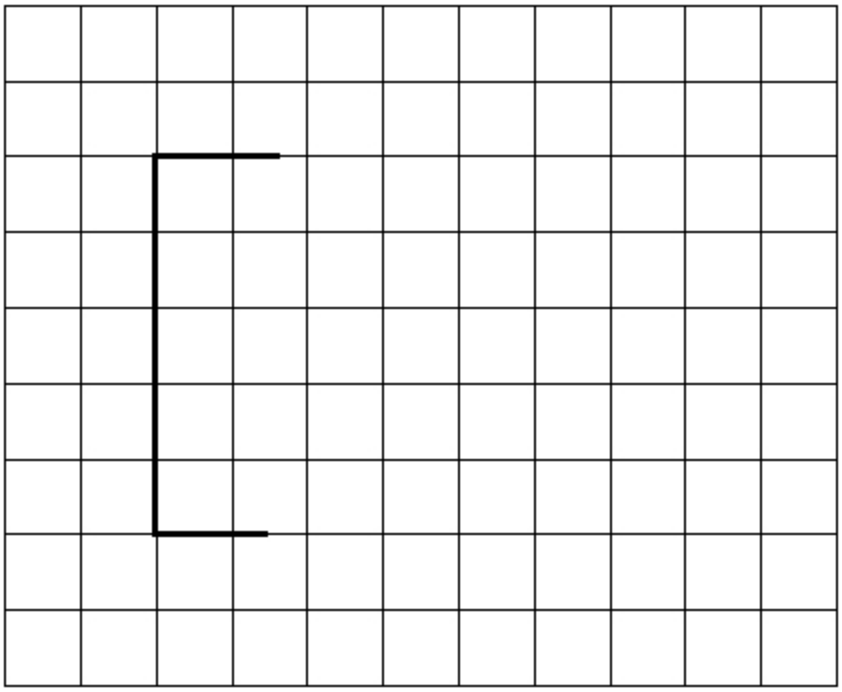
hexagon ☐

heptagon ☐

octagon ☐

1 mark

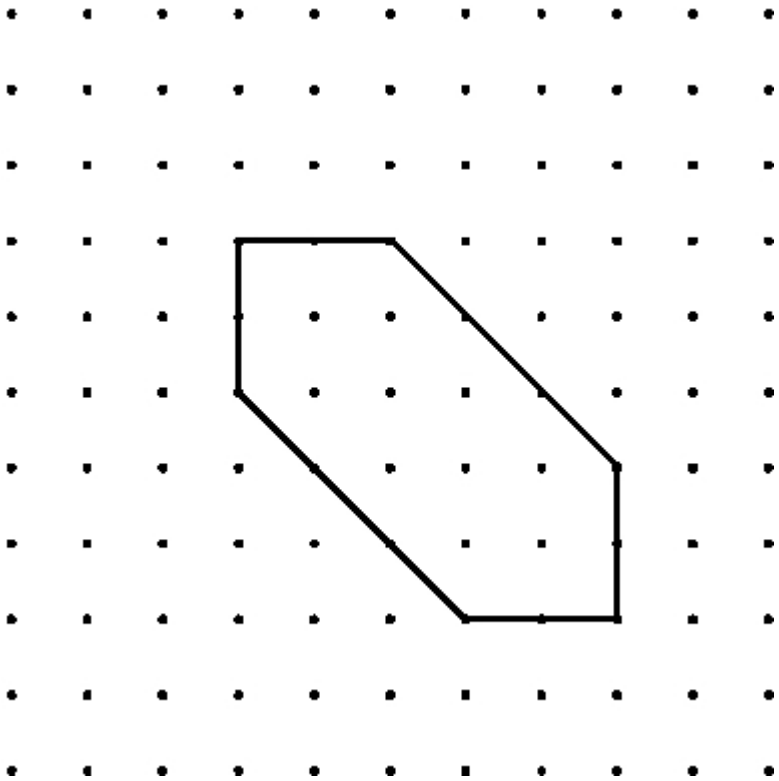
2. Complete this shape so that it makes a square.



1 mark

3. Draw the **2** lines of symmetry on this shape.

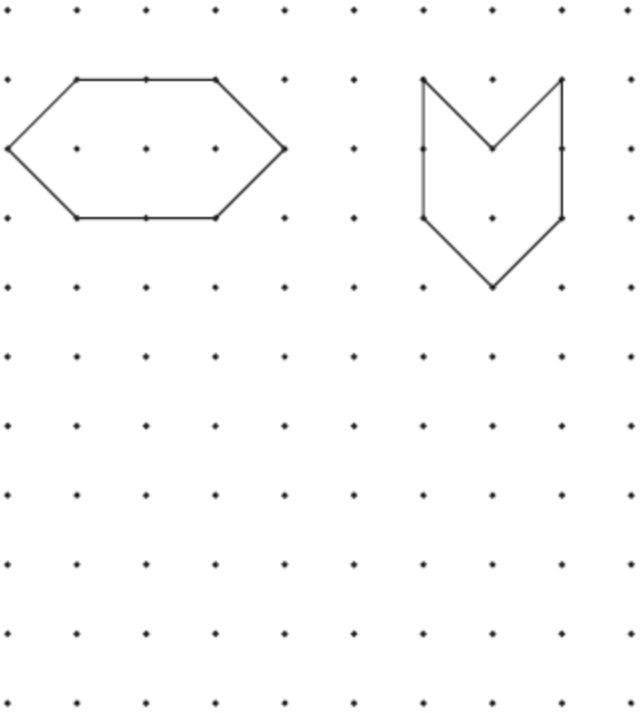
You may use a mirror.



1 mark

4. Use the dots to draw a **different** hexagon.

You may use a ruler.

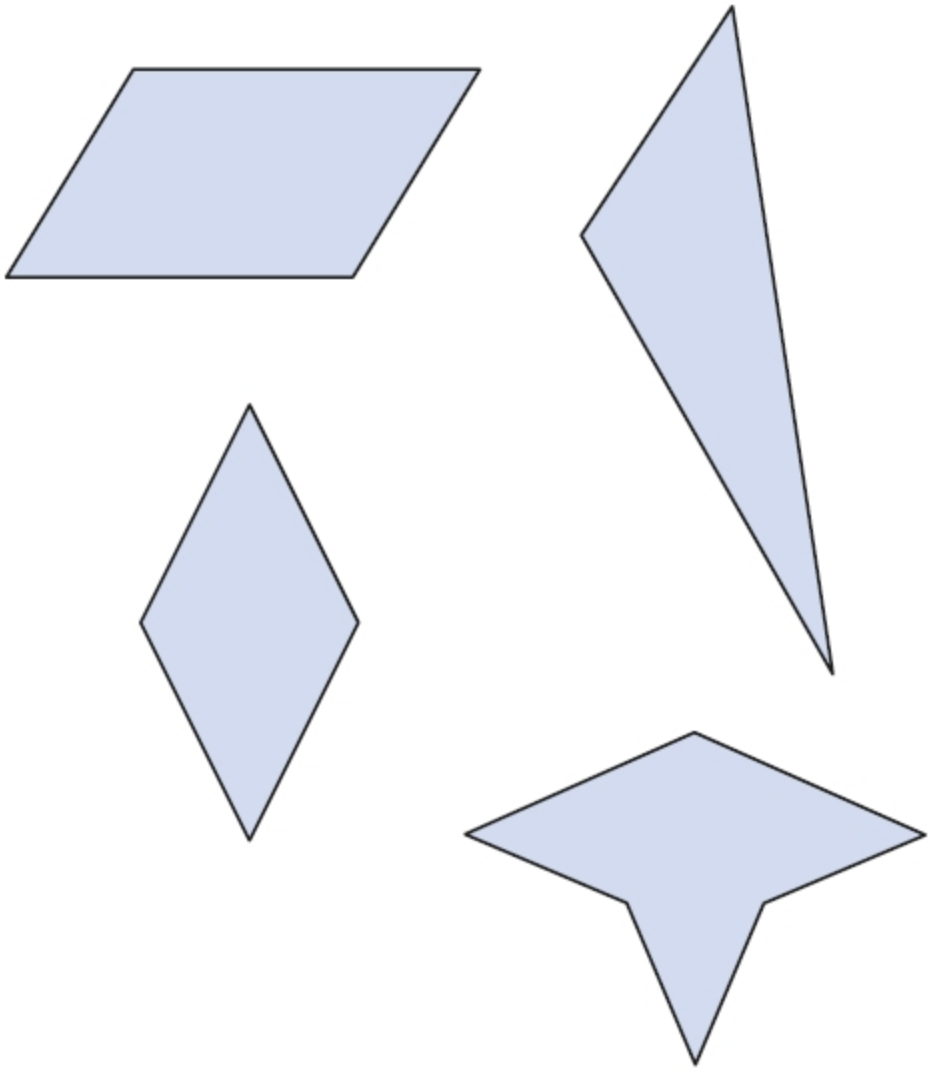


1 mark

5. **Two** of these shapes have **no** lines of symmetry.

Draw a cross (✗) on them.

You may use a mirror.

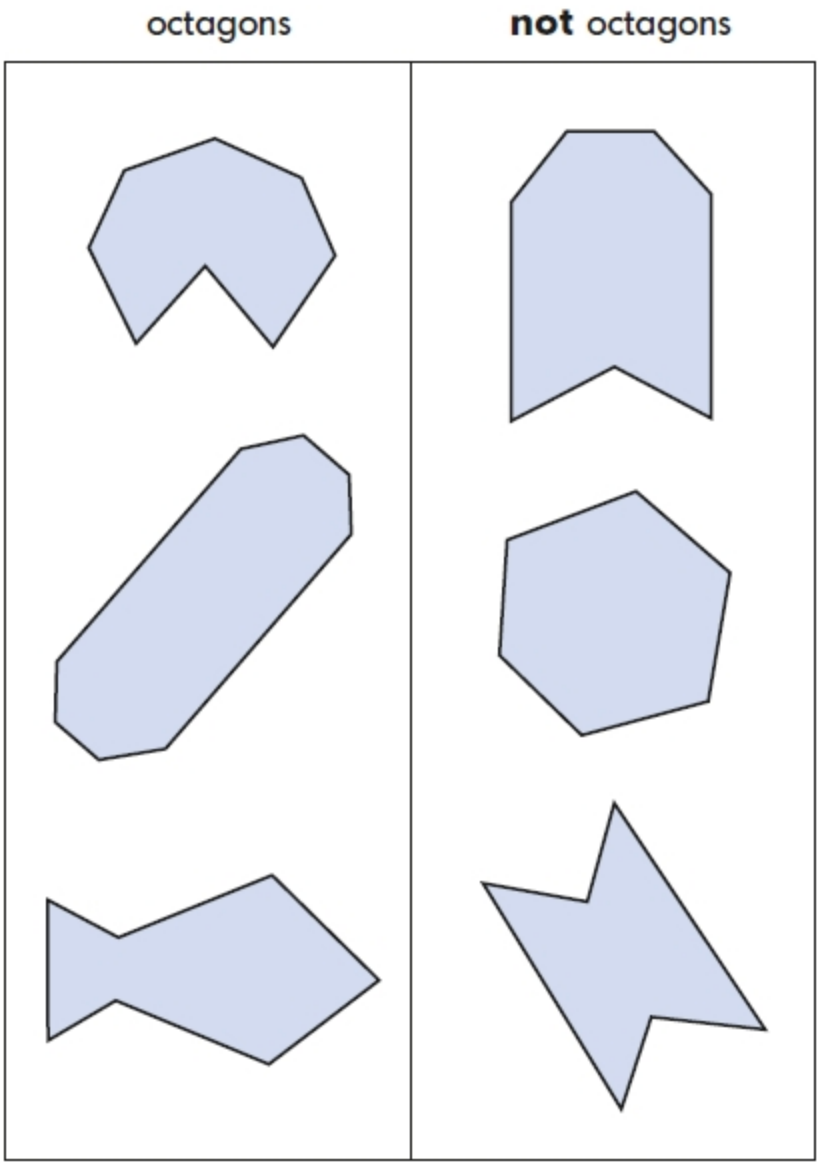


1 mark

6. These shapes have been sorted.

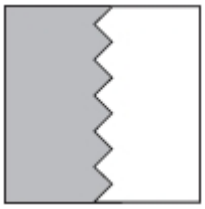
One shape is in the wrong place.

Draw a cross (✗) on it.



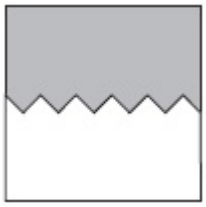
1 mark

7. This tile is rotated **clockwise** through a three-quarter turn.

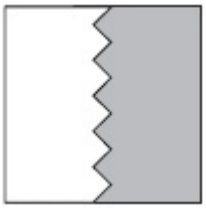


What will the tile look like **after** it has been turned?

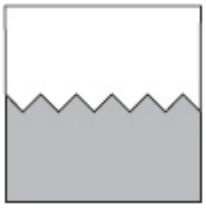
Tick **one**.



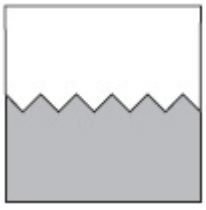
☐



☐



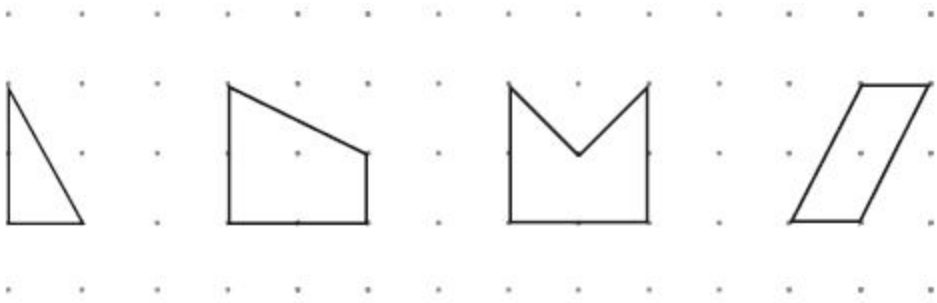
☐



☐

1 mark

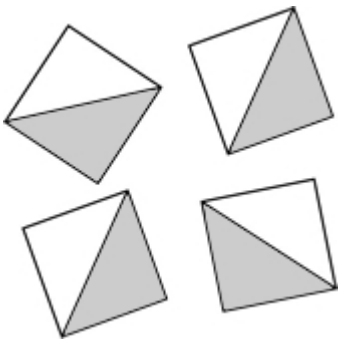
8. Tick the shape that has a line of symmetry.



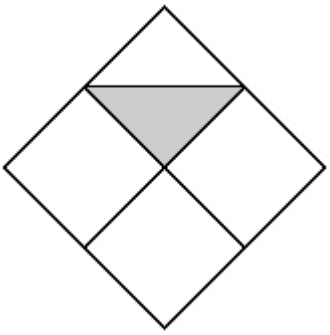
1 mark

9. **Making patterns**

I have four identical square tiles.

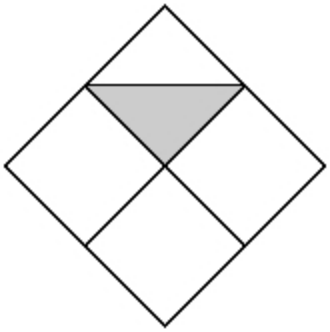


(a) Show how the four tiles can fit together to make a pattern with **4 lines of symmetry.**



1 mark

(b) Now show how the four tiles can fit together to make a pattern with **no lines of symmetry.**



1 mark

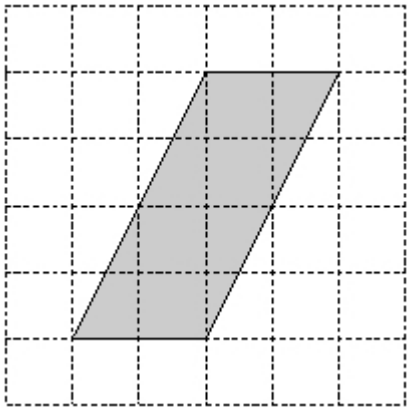
10. **Shape names**

Two shapes are drawn on a square grid.

More than one of the words listed can describe that shape.

For each shape, tick (✓) **all** the words that can describe that shape.

(a)



quadrilateral _____

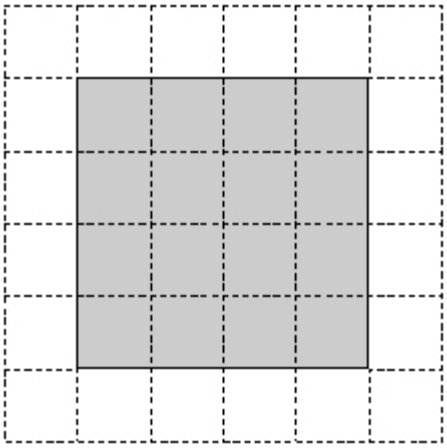
square _____

rectangle _____

parallelogram _____

1 mark

(b)



quadrilateral _____

square _____

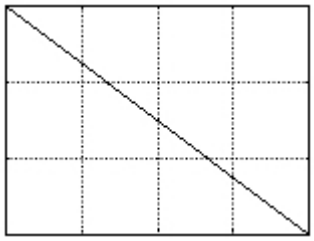
rectangle _____

parallelogram _____

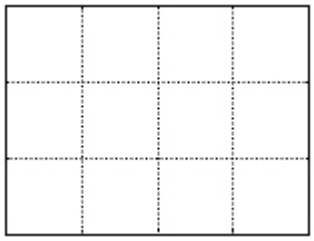
1 mark

11. **Drawing lines**

You can draw one straight line on the rectangle to make **two triangles**.

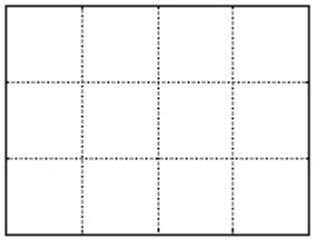


(a) Draw one straight line on the rectangle below to make **one square** and **one rectangle** that is not a square.



1 mark

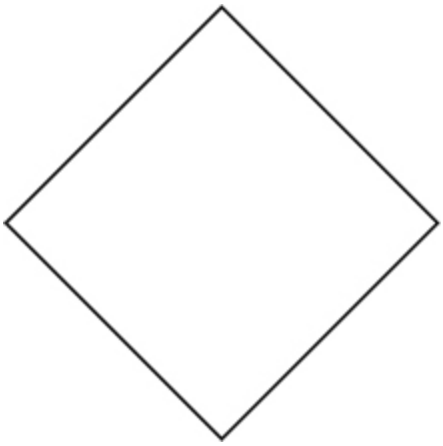
(b) Draw one straight line on the rectangle below to make **one triangle** and **one quadrilateral**.



1 mark

12. **Squares**

Look at this shape.



Complete the sentences.

The shape is a square so the sides must be _____

1 mark

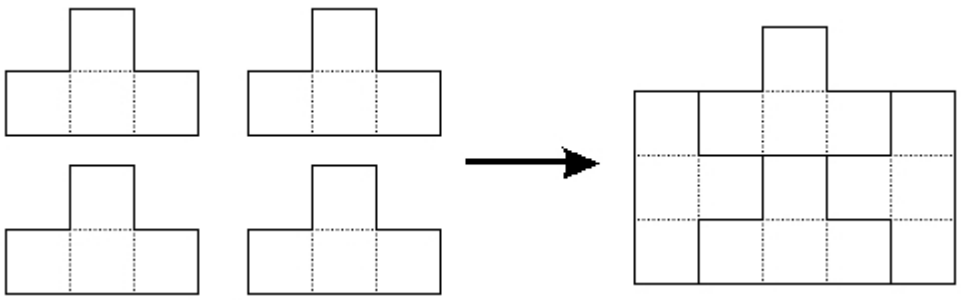
The shape is a square so the angles must be _____

1 mark

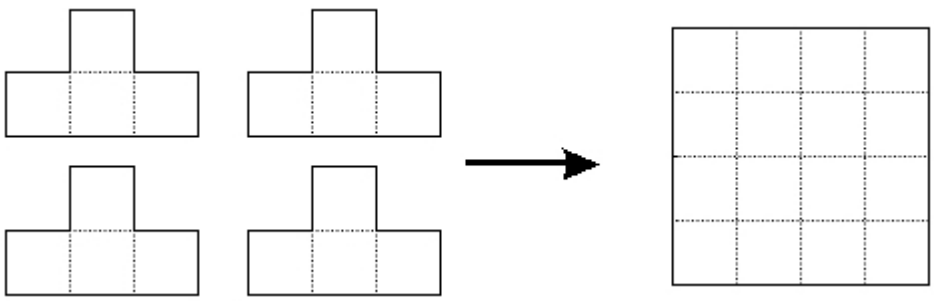
13. **Tessellating**

Four T-shaped tiles can fit together in different ways.

For example:

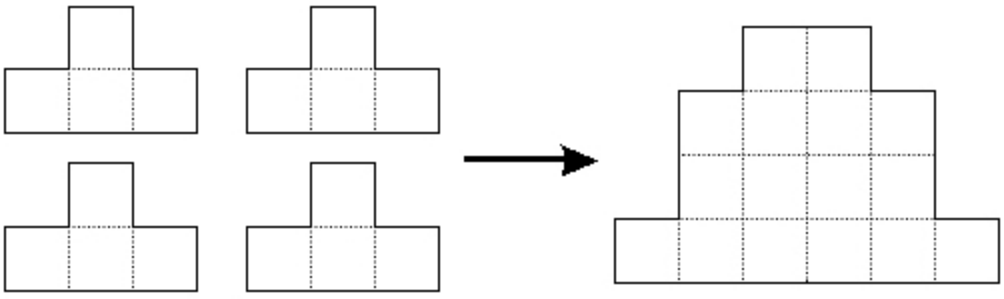


(a) Show how the four T-shaped tiles fit together to make a square.



1 mark

(b) Now show how the four T-shaped tiles fit together to make this new shape.



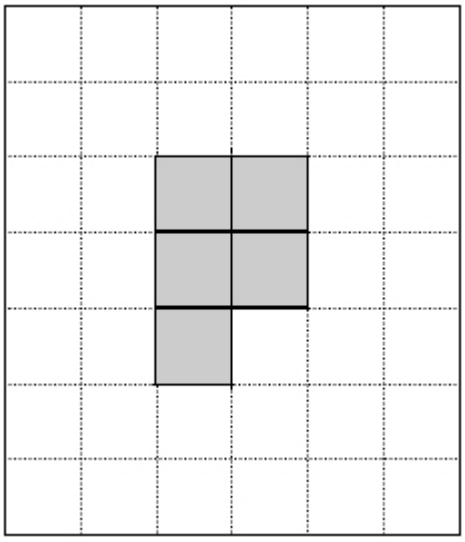
1 mark

14. **Five tiles**

Look at the square grid.

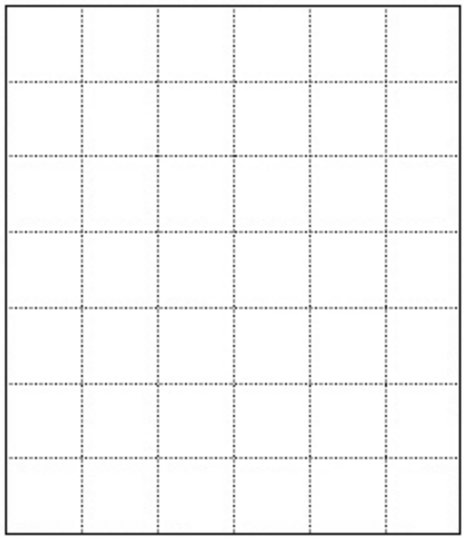
Five squares are shaded to make a shape.

The shape has **no** lines of symmetry.



On the grid below, **shade five squares** to make a different shape.

The shape must have exactly **one line of symmetry**.

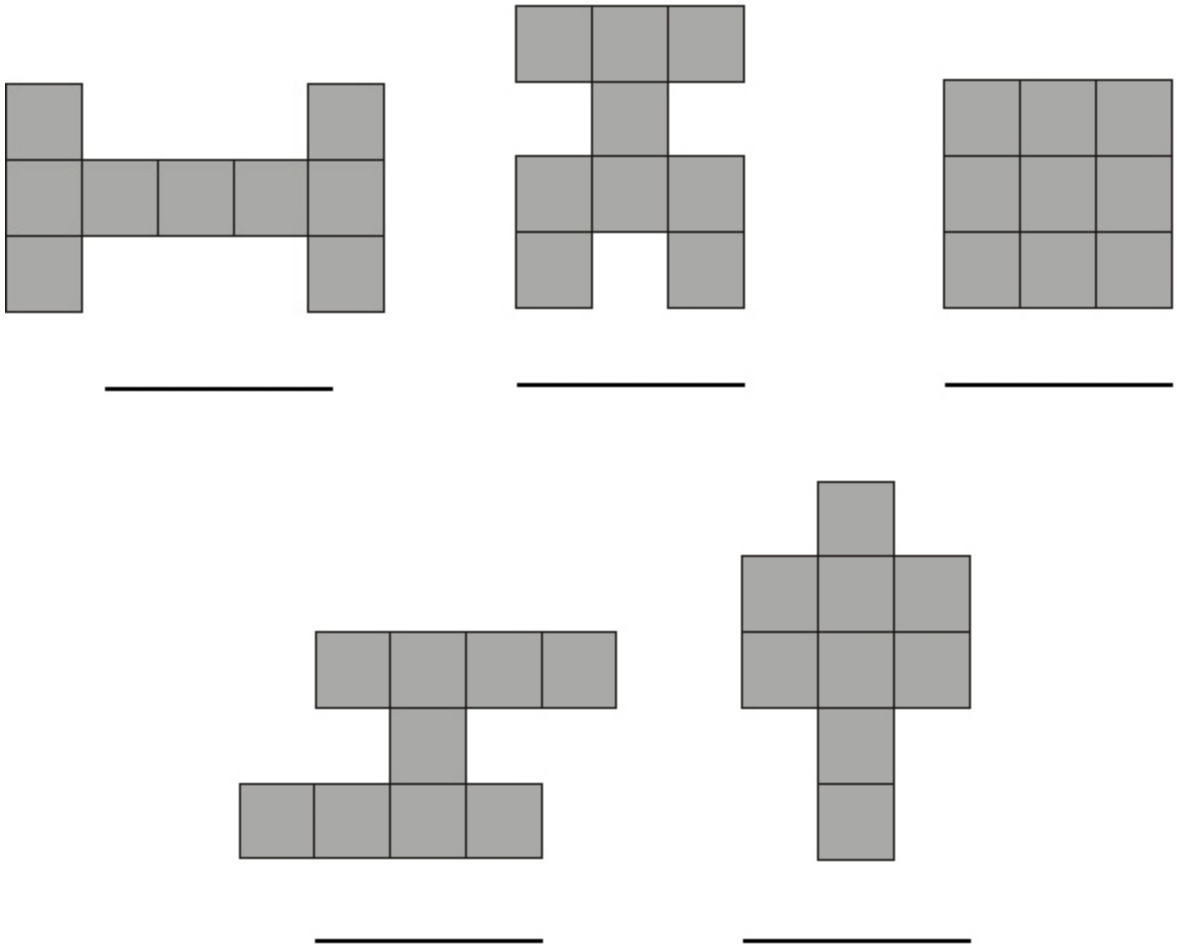


1 mark

15. **Turning**

Tick the shapes that have **more than one** line of symmetry.

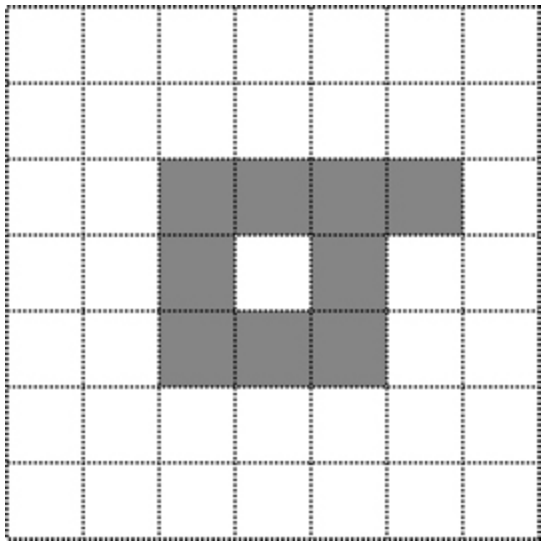
Tick (✓) the ones that do. Cross (✗) the ones that do not.



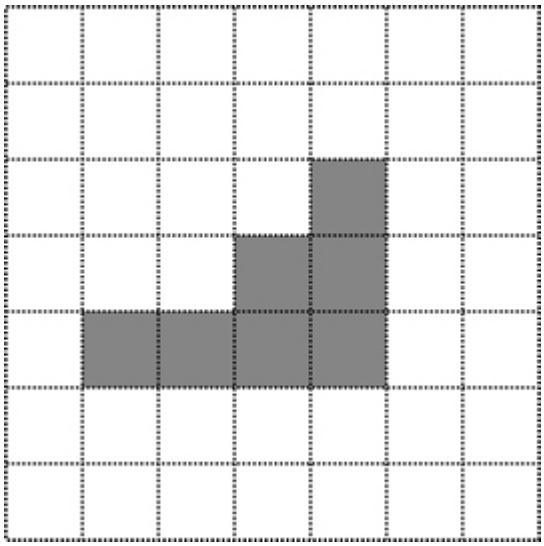
2 marks

16. **One line**

Shade **one more square** on each grid so that **each shape** has **one line of symmetry**.



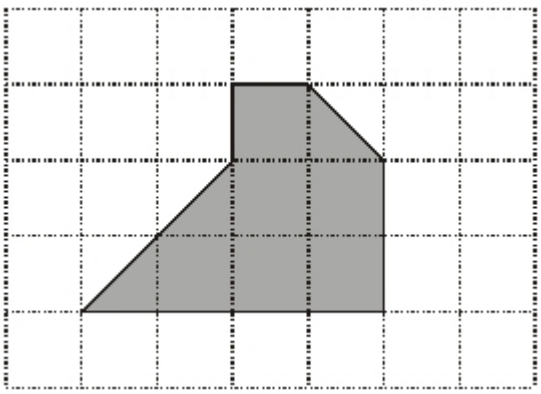
1 mark



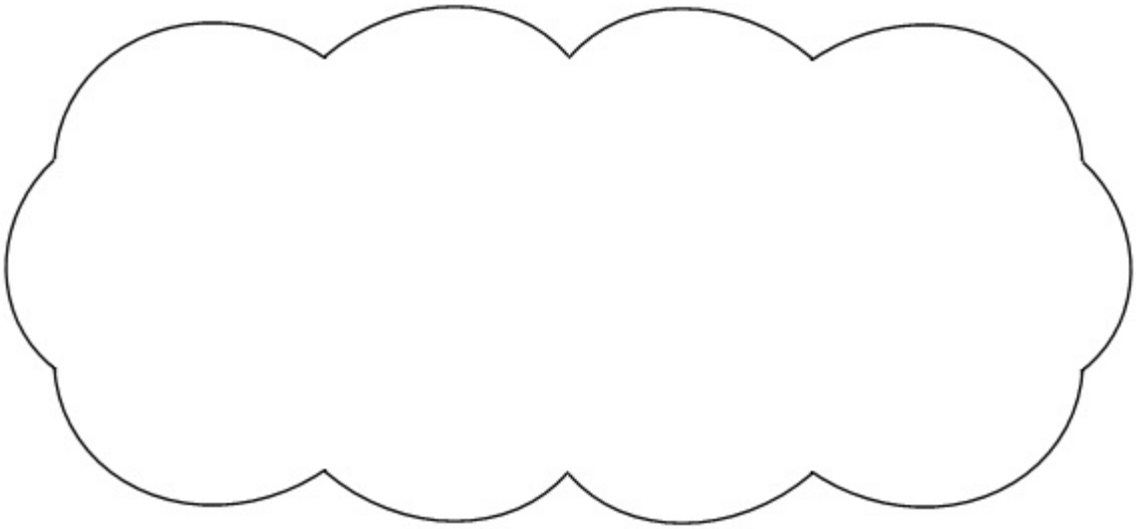
1 mark

17. **Area**

Look at the shaded shape on this centimetre square grid.



(a) Explain why the shape is a **hexagon**.



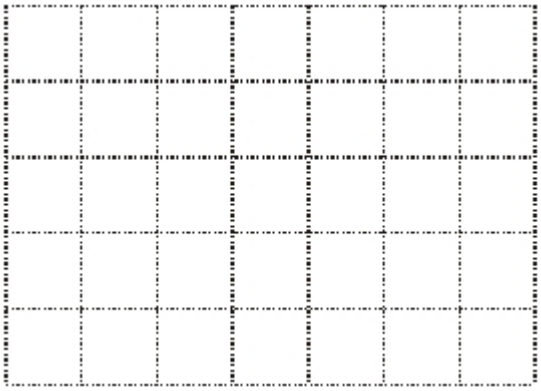
1 mark

(b) What is the **area** of the hexagon?

cm^2

1 mark

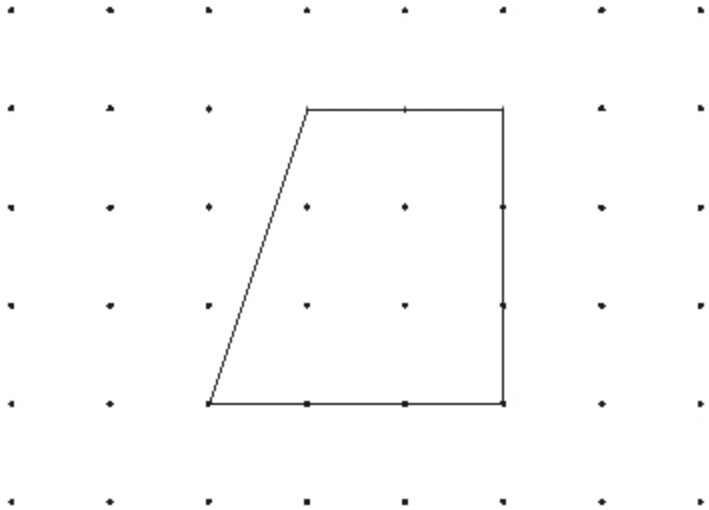
(c) On the centimetre square grid below, draw a **triangle** that has an area of **2 cm^2**.



1 mark

18. **Properties of shape**

Look at the shape drawn on the square grid.

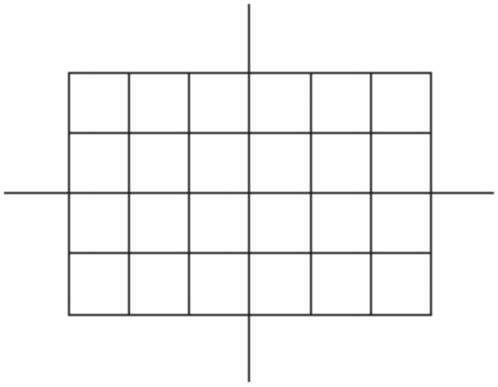


For each statement below, tick (✓) True or False.

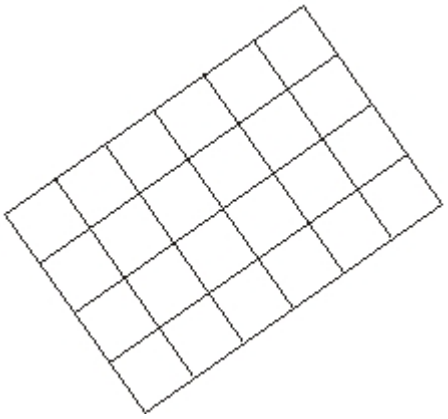
	True	False
The shape has exactly 2 right angles.	☐	☐
The shape has 2 pairs of parallel lines.	☐	☐
The shape has one line of symmetry.	☐	☐
The shape is a quadrilateral.	☐	☐

2 marks

19. A rectangle has **two** lines of symmetry.

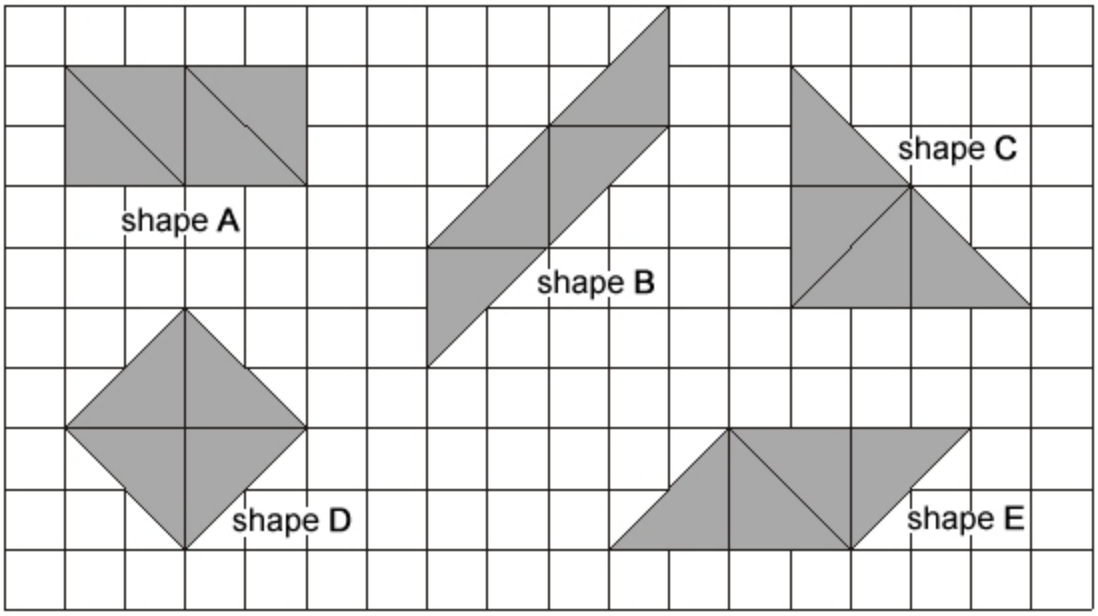


Now, draw the two lines of symmetry on this rectangle.



1 mark

20. Joe makes different shapes using four tiles each time.
The square grid shows the different shapes he makes.



(a) Which shape is a **square**?
Write its letter.

shape _____

1 mark

(b) Which shape is **not** a **quadrilateral**?
Write its letter.

shape _____

1 mark

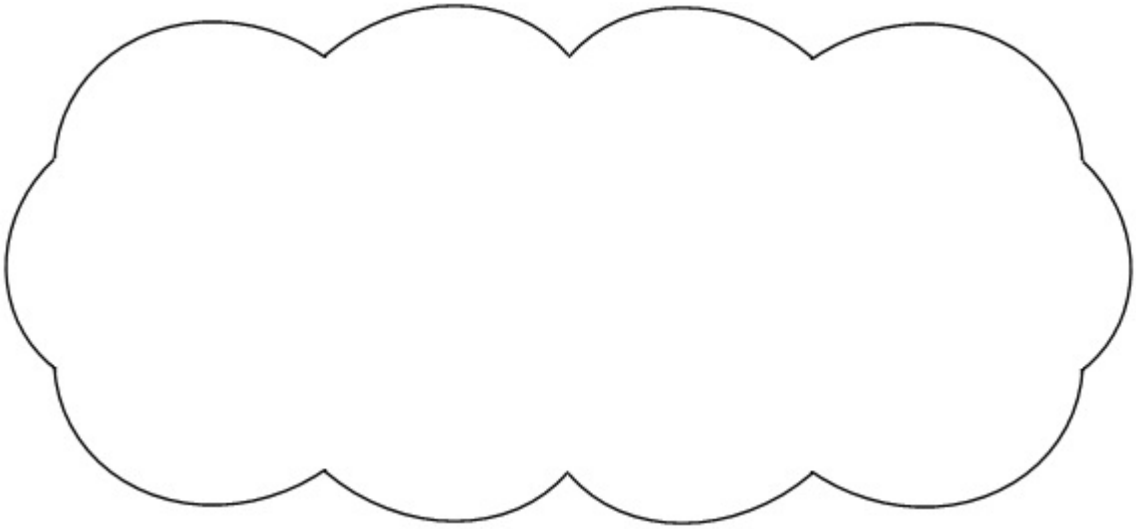
(c) Joe says:

The shape with the **biggest area** is shape **C**.

Is Joe correct?

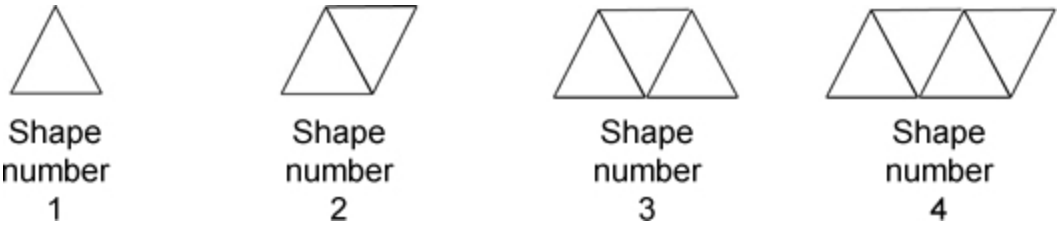
Yes ☐ No ☐

Explain your answer.



1 mark

21. Jo places equilateral triangles in straight lines to make this sequence.



(a) Which word below describes **shape number 3**? Put a ring round it.

parallelogram rhombus pentagon trapezium

1 mark

(b) Look at the table below.

Shape number	Perimeter
1	3cm
2	4cm
3	5cm
4	6cm

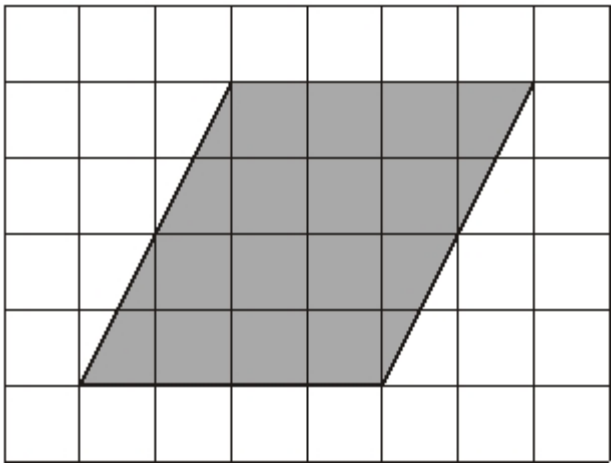
Jo makes **shape number 15**

What is the **perimeter** of shape number 15?

cm

1 mark

22. Look at the shaded shape on the square grid.



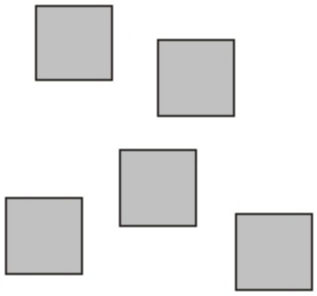
For each statement below, tick (✓) to show if it is True or False.

	True	False
The shaded shape is a quadrilateral.	☐	☐
The shaded shape has four equal sides.	☐	☐
The shaded shape has four equal angles.	☐	☐
The shaded shape has two pairs of parallel sides.	☐	☐

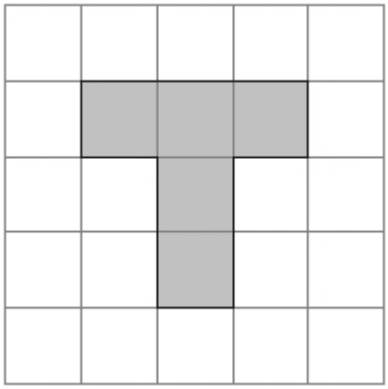
2 marks

23. **Symmetry**

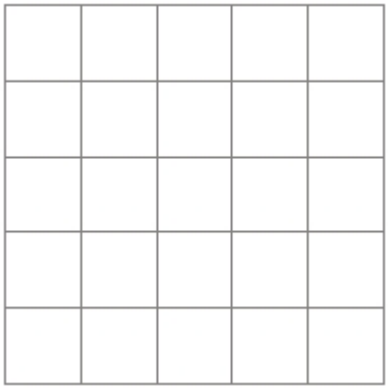
You can make patterns on square grids using **5** square tiles.



This pattern has **one** line of symmetry.



Use **5** square tiles to draw a pattern on the grid below that has **more than one** line of symmetry.



1 mark

24. **True or false**

Look at these statements about **rectangles**.

For each statement, tick (✓) True or False.

The first one is done for you.

	True	False
All rectangles have four sides.	☐	☐
All rectangles have four equal sides.	☐	☐
Some rectangles have no right angles.	☐	☐
All rectangles have at least one line of symmetry.	✓	☐

1 mark

25. Join dots on the grid to make a quadrilateral that has **2 acute** angles.

1 mark

26. Complete this table.

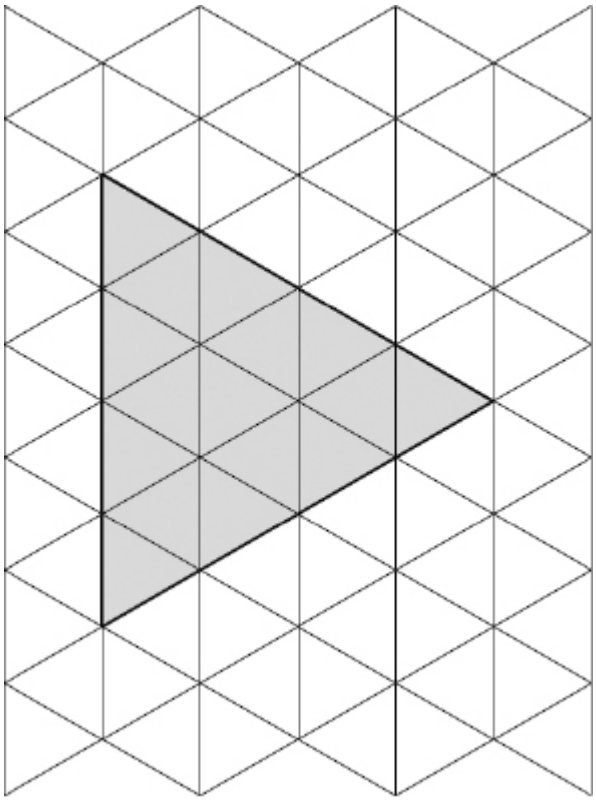
shape	property of shape		
	4 sides only	one or more right angles	only two pairs of parrallel sides
	☒	☑	☒
	☐	☐	☐
	☐	☐	☐

2 marks

27. Here is a grid of equilateral triangles.

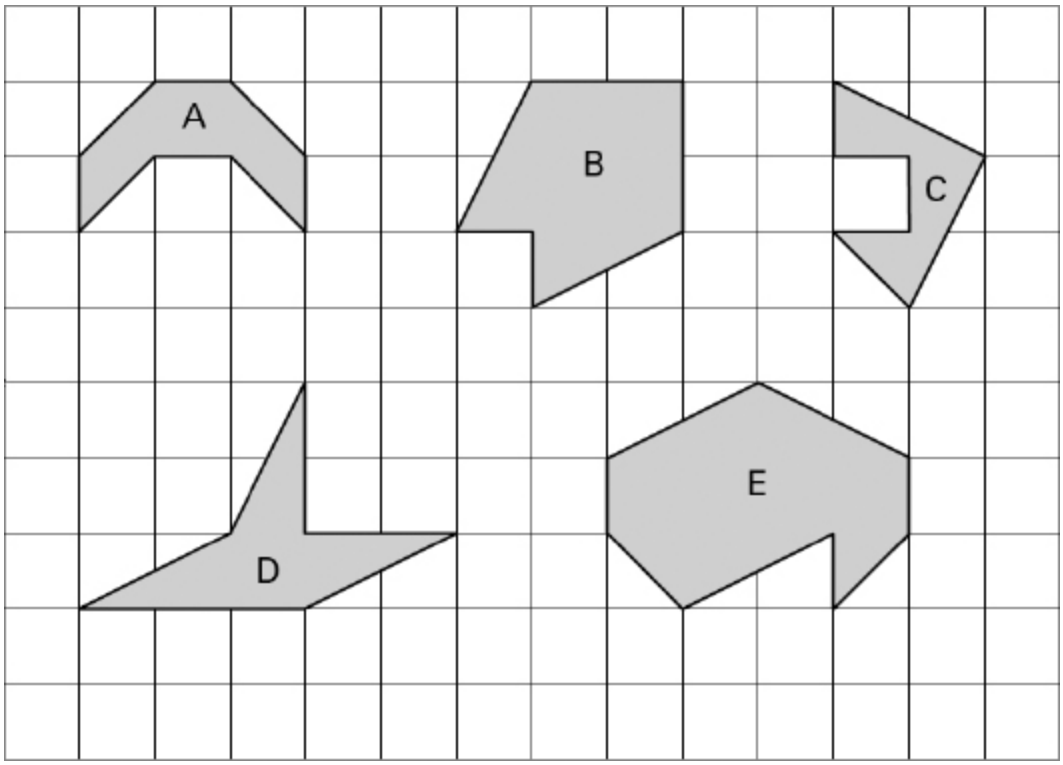
Draw **all** the lines of symmetry on the shaded triangle.

Use a ruler.



1 mark

28. Here are five shapes on a grid.



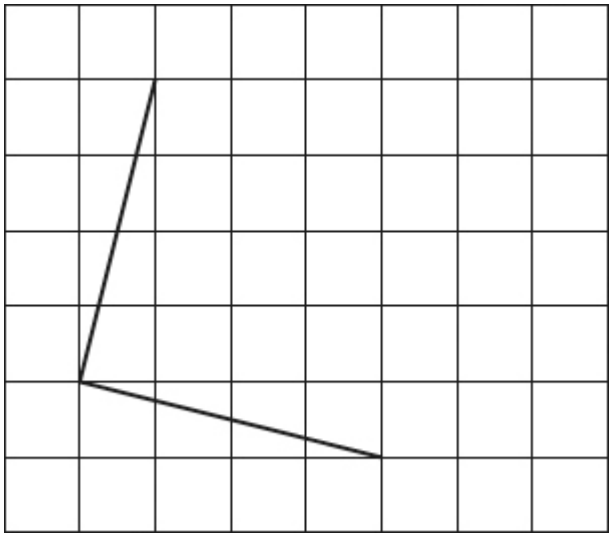
Write the letters of the two shapes that are octagons.

☐ and ☐

1 mark

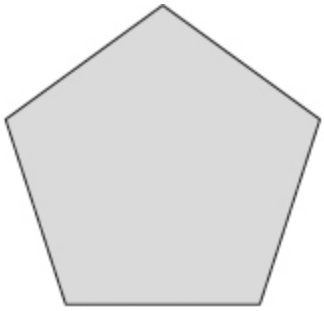
29. Draw two more lines on this grid to make a square.

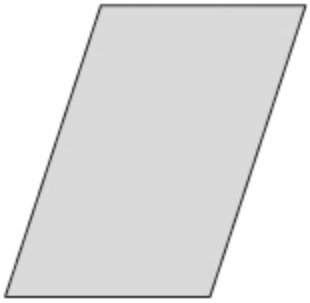
Use a ruler.

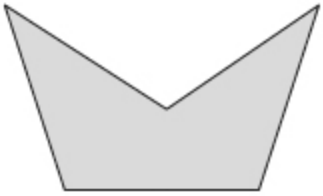


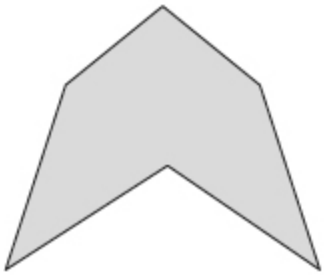
1 mark

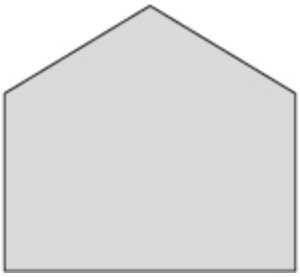
30. Put a tick (✓) in each of the **pentagons**.











1 mark

Mark schemes

1. Tick by octagon

Accept any other clear way of indicating the correct name.
***Do not** award the mark if more than one name is ticked unless it is clear that the correct one is the child's final choice.*

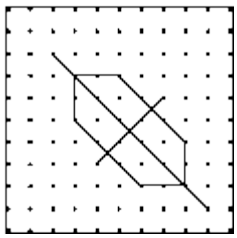
[1]

2. Completes the 5 × 5 square

Lines do not need to be ruled or exactly on the grid, providing the intention to make a 5 × 5 square is clear.

[1]

3. 2 lines of symmetry drawn as shown:



Accept slight inaccuracies in drawing provided the child's intention is clear.

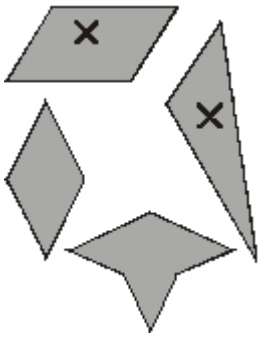
[1]

4. Draws a hexagon different in shape or orientation to the two given, eg

Accept more than one hexagon drawn, provided all hexagons are correct.
Vertices do not need to touch the dots for the award of the mark.
Accept slight inaccuracies in drawing, provided the child's intention is clear.

[1]

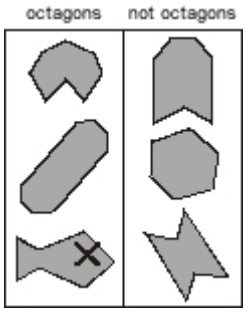
5. Top two shapes crossed as shown:



Accept any other clear way of indicating the correct shapes, eg ticks rather than crosses on the correct shapes.
***Do not** award the mark if the bottom two shapes are ticked and there are no crosses on the top two shapes.*
***Do not** award the mark if extra shapes are indicated unless it is clear that the correct shapes are the child's final choice.*

[1]

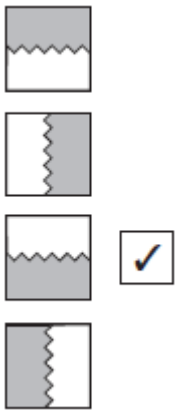
6. Cross drawn on shape as shown:



Accept any other clear way of indicating the correct response.
***Do not** award the mark if extra shapes are crossed unless it is clear that the correct one is the child's final choice.*

[1]

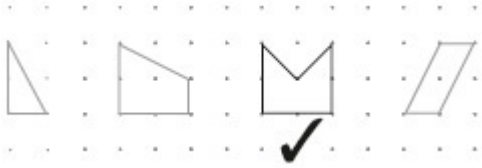
7.



***Do not** award the mark if more than one answer is indicated.*

[1]

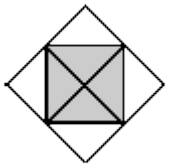
8. Correct shape indicated as shown:



Accept any other clear way of indicating the correct answer.
***Do not** award the mark if additional shapes are indicated, unless it is clear that the correct shape is the pupil's final choice.*

[1]

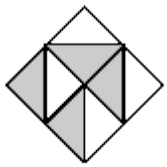
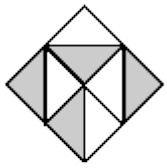
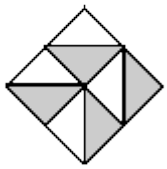
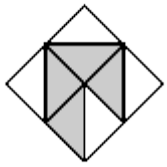
9. (a)



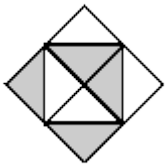
Accept Not ruled
Do not accept no shading, or other indication of the orientation of the tiles
Do not accept only 2 tiles, or different tiles, used

1

(b) Uses the four tiles to make a pattern with no lines of symmetry, eg

- 
- 
- 
- 

Do not accept in part (b) the pattern has one line of symmetry, eg



1

[2]

10. (a) All correct names identified, ie

quadrilateral	✓
square	
rectangle	
parallelogram	✓

1

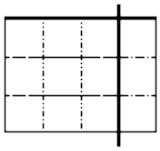
(b) All correct names identified, ie

quadrilateral	✓
square	✓
rectangle	✓
parallelogram	✓

1

[2]

11. (a) Draws one vertical straight line on the rectangle to make one square and one rectangle that is not a square, eg

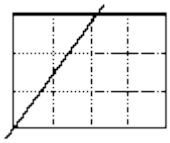
- 

! Line not ruled or accurate

Accept provided the pupil's intention is clear

1

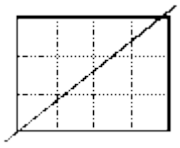
(b) Draws one straight line on the rectangle, from a vertex to a side, to make one triangle and one quadrilateral, eg

- 

Accept line not ruled

! Line not accurate

If the line meets a side of the rectangle within 2mm of a vertex, assume that the pupil's intention was for the line to go through the vertex eg, do not accept



1

[2]

12. Completes the sentence by stating that the sides must be equal in length, eg

- ...the same length
- ...equal
- ...one quarter of the perimeter

Accept minimally acceptable statement, eg

- *... the same*
- *... 3cm*

Accept unambiguous statement, eg

- *... equilateral*
- *... equivalent*

Do not accept incomplete or incorrect statement, eg

- *... four*
- *... straight*
- *... the same length, half the perimeter*

1

Completes the sentence by stating that the angles must be equal in size, eg

- ...90 °
- ...right angles
- ...the same angles
- ...equal

Accept minimally acceptable statement, eg

- *... the same*
- *... 90*
- *... right*

! Incorrect units

Ignore

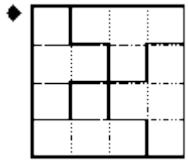
Do not accept incomplete or incorrect statement, eg

- *... four*
- *... corners*
- *... 360 °*

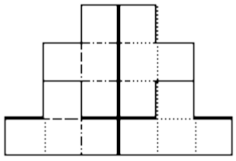
1

[2]

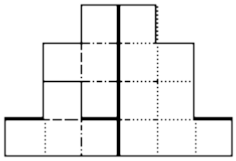
13. (a) Any correct arrangement, eg



1

(b) 

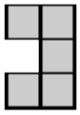
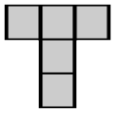
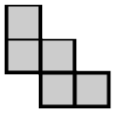
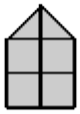
Do not accept additional lines or missing lines eg for part (b)



1

[2]

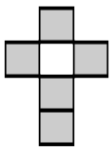
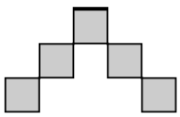
14. Shades a total of 5 squares to make a shape that has exactly one line of symmetry, eg

- 
- 
- 
- 

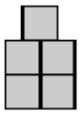
! ***Squares not shaded or internal lines not drawn***

Accept provided there is no ambiguity

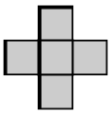
Accept shape has a 'hole ' or has corner-to-corner joins, eg

- 
- 

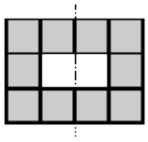
! Grid lines not used, eg

- 

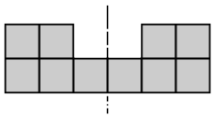
Accept provided the pupil 's intention is clear
Do not accept shape has more than one line of symmetry, eg

- 

! Other shapes drawn
If their five squares has exactly one line of symmetry, ignore further reflections, eg accept

- 

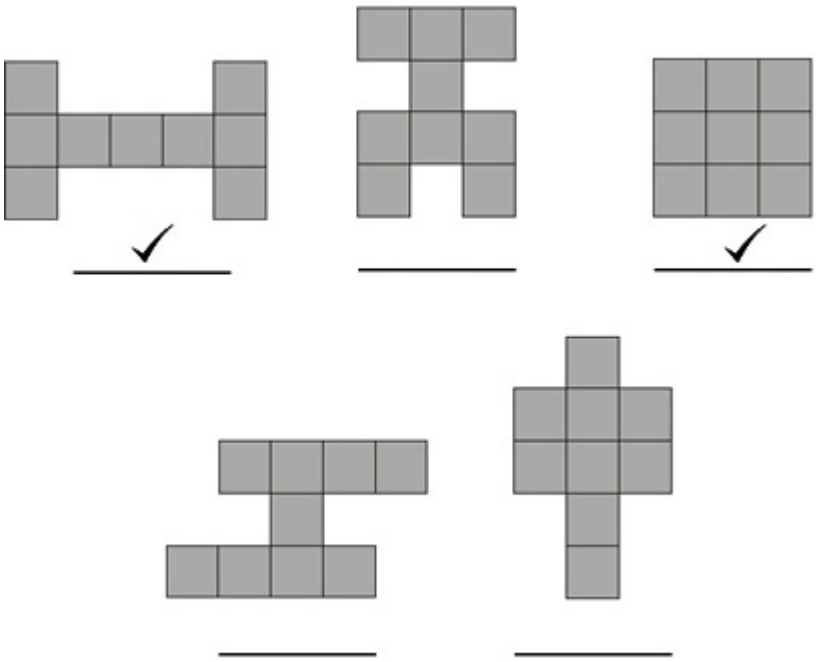
Do not accept their five squares reflected with the only line of symmetry the mirror line used for the reflection, eg

- 

U1

[1]

15. Award **TWO** marks for the correct answer of shape 1 (H shape) **AND** shape 3 (square)



If incorrect, award **ONE** mark for:

- shape 1 (H shape) only

OR

- shape 3 (square) only

OR

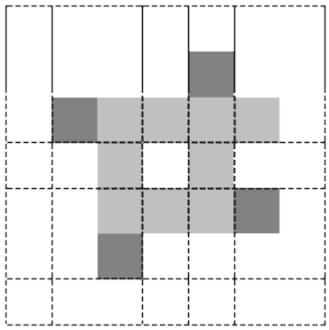
- **BOTH** correct shapes **AND** not more than one incorrect shape

Accept provided unambiguous, eg

Up to 2

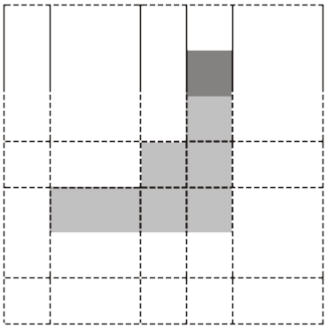
[2]

16. Indicates one more square so the first shape has one line of symmetry,
ie indicates one of the four black squares shown below



1

Indicates one more square so the second shape has one line of symmetry, ie



1

! Square not shaded
Accept provided the indication is unambiguous

! Line(s) of symmetry drawn
Ignore, even if incorrect

[2]

17. (a) Gives a correct explanation, eg

- It has six sides
- It has 6 angles
- It has 6 corners

Accept minimally acceptable explanation, eg
- *6 edges*
- *6 lines*
- *6 points*
- *6 faces*

Do not accept incomplete explanation, eg
- *6*

1

(b) 7.5 or equivalent

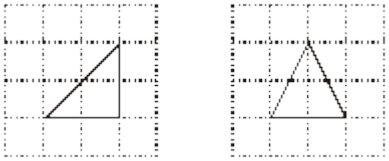
Do not accept incorrect notation, eg
- $7\frac{1}{2}$

1

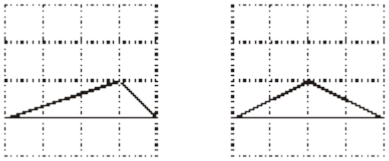
(c) Draws a triangle with an area of $2cm^2$

The most common correct drawings:

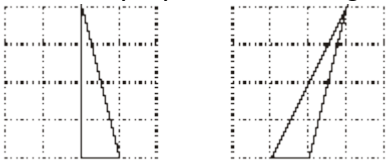
Have integer values for both the base and perpendicular height
eg, for base 2, perpendicular height 2

- 

eg, for base 4, perpendicular height 1

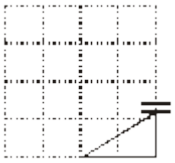
- 

eg, for base 1, perpendicular height 4

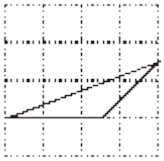
- 

Have the base, or the perpendicular height, or both, as a non-integer value, but supporting working shows this is deliberate

eg, for base 3, perpendicular height $1\frac{1}{3}$

- 

eg, for base 2.5, perpendicular height 1.6

- 

2.5 and 1.6 seen

! Lines not ruled or accurate
Accept provided the pupil's intention is clear

! Base or perpendicular height not accurate
Accept provided the pupil's intention is clear

1

[3]

18. Makes all four correct decisions, ie

	True	False
	✓	
		✓
		✓
	✓	

2

or Makes three correct decisions

! Other indication

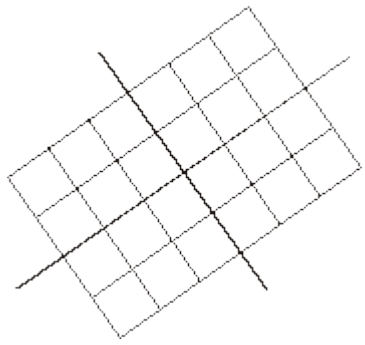
Accept any unambiguous indication but do not accept blanks for false

1

[2]

19. Draws the two lines of symmetry in the correct positions on the rectangle, eg

•



! Lines not ruled, accurate or full length

Accept provided the pupil's intention is clear and each line spans at least two squares

Do not accept additional lines indicated

[1]

20. (a) D

1

(b) C

Accept unambiguous indication
eg, for part (b)
- *Triangle*

1

(c) Indicates No and gives a correct explanation

The most common correct explanations:

Refer to at least one of the other shapes having the same area as shape C, eg
- All of the shapes have the same area because they are made from 4 of the same sized tiles
- Each shape is made from 4 equal triangles
- Two tiles make a square and all the shapes are made of 2 squares

Refer to at least one of the other shapes having an area of 8 squares, eg
- All the shapes have an area of 8 squares

Accept minimally acceptable explanation, eg
- *Same*
- *E is the same*
- *All 4*
- *All 2*

Do not accept incomplete or incorrect explanation, eg
- *4 tiles*
- *B has a bigger area*

Accept minimally acceptable explanation, eg
- *All 8*
- *B is 8 as well*

! Squares taken to be square centimetres, eg
- All 8cm^2

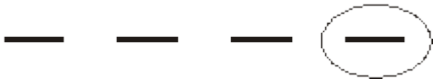
Condone

Do not accept incorrect explanation, eg
- *They all have the same area of 16 squares*

U1

[3]

21. (a) Indicates trapezium, ie



Accept unambiguous indication

1

(b) 17

1

[2]

22. Makes all four correct decisions, ie

True	False
✓	
	✓
	✓
✓	

2

or Makes three correct decisions

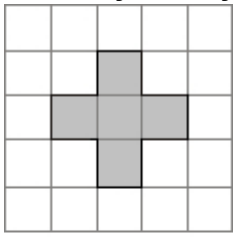
! Unambiguous indication

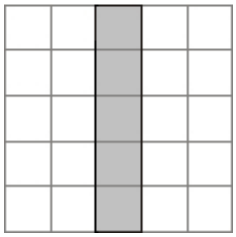
Accept any unambiguous indication but do not accept blanks for false

1

[2]

23. Award **ONE** mark for a shape using **5 square tiles AND** with **more than one line of symmetry**, eg

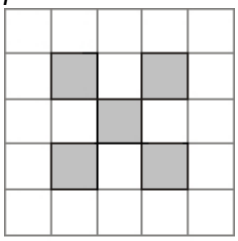


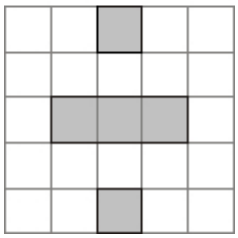


Accept squares not shaded provided the pupil's intention is clear

Ignore, line(s) of symmetry drawn even if incorrect

Accept a pattern drawn with squares not joined side to side providing the pattern has more than one line of symmetry, eg





***Do not** accept pattern uses part-squares*

[1]

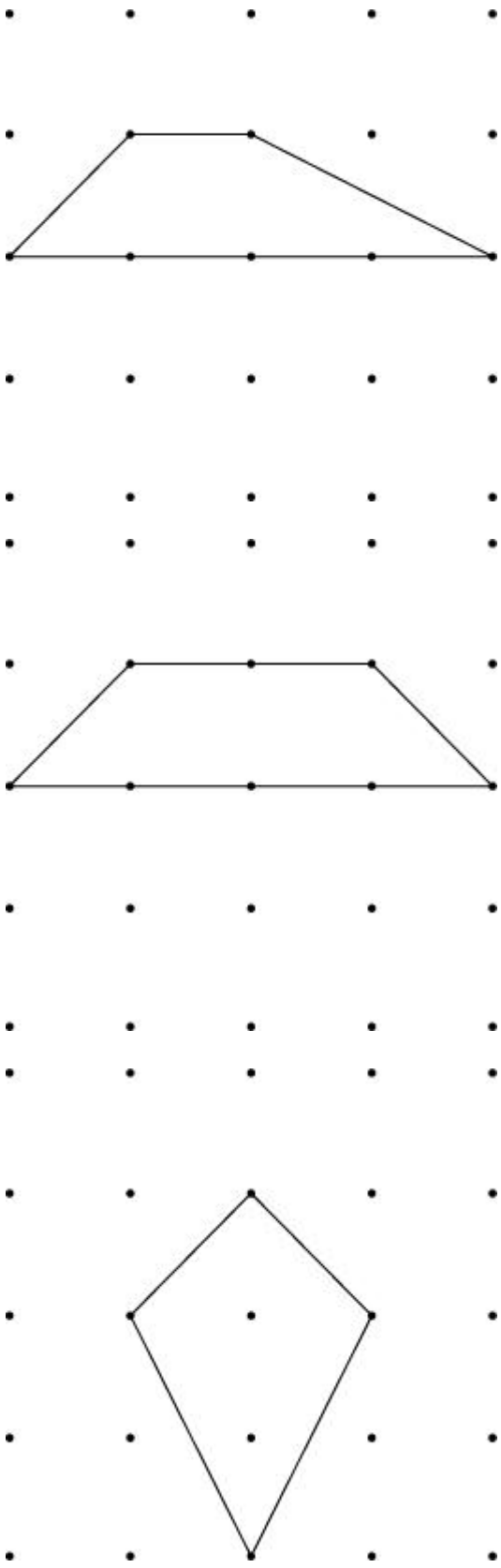
24. Award **ONE** mark for all three correct decisions, ie

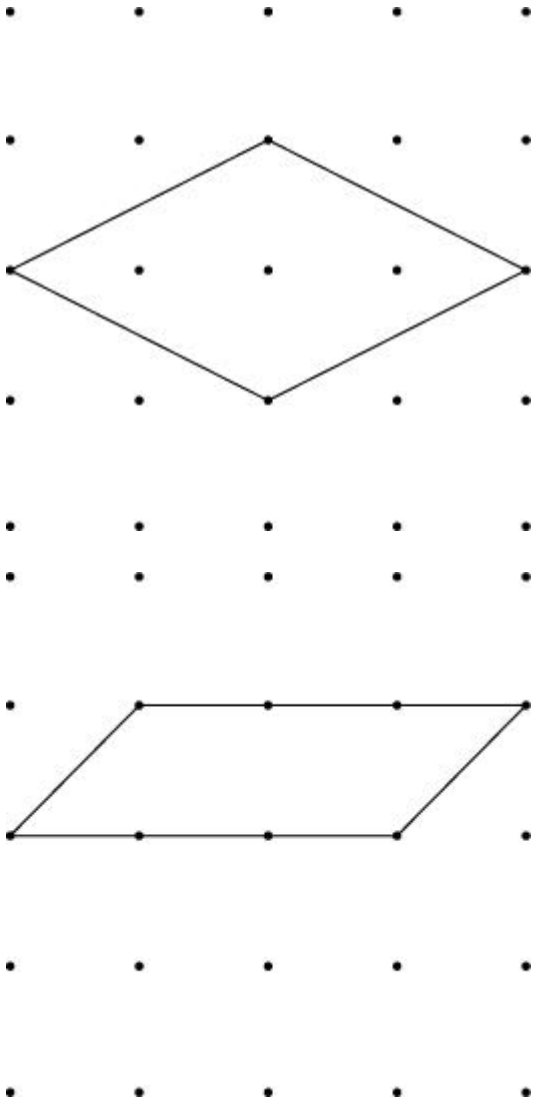
	True	False
	✓	
		✓
		✓
	✓	

*Accept any unambiguous indication but **do not** accept blanks for false*

[1]

25. A quadrilateral with two acute angles, e.g.





Accept inaccurate drawing provided the intention is clear.

[1]

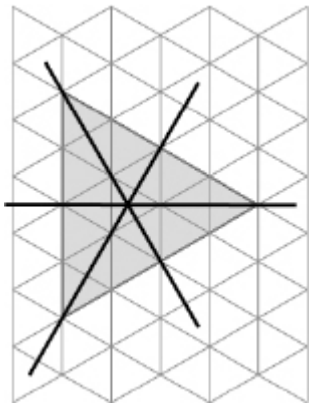
26.

For each row, all three boxes must be correct.
***Do not** accept blank boxes.*
Accept other unambiguous indications, eg:

- ***Y (for tick) N (for cross).***

[2]

27. Diagram completed as shown:



All three *lines of symmetry must be drawn for the award of the mark.*
Accept slight inaccuracies in drawing, provided the intention is clear.

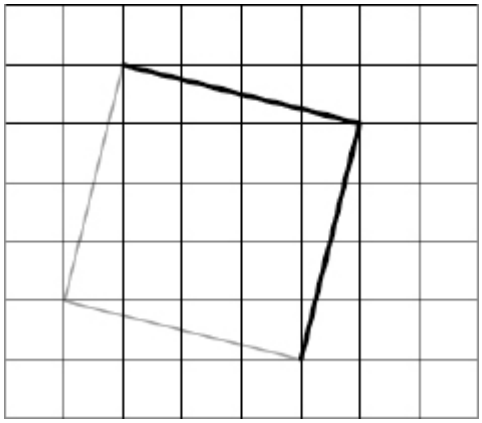
[1]

28. A **AND** E

Both *letters must be correct for the award of the mark.*
Accept letters in either order.
Accept any other clear way of indicating the correct shapes, such as ticking or circling.

[1]

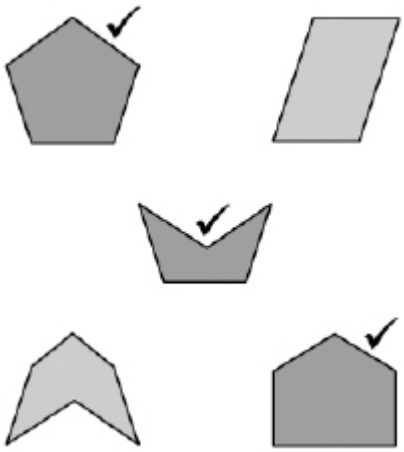
29. Square completed as shown:



Accept slight inaccuracies in drawing provided the intention in clear.
Vertex must be within 3mm of the correct grid point.

[1]

30. Three pentagons ticked as shown:



All three *pentagons must be ticked for the award of the mark.*
Accept any other clear way of indicating the correct shapes, such as circling.

[1]