

Name \_\_\_\_\_ 20 mins

Symmetry, reflection, rotation and translation levels 4-5  
(and one easy level 6)

Any parent notes or comments: \_\_\_\_\_

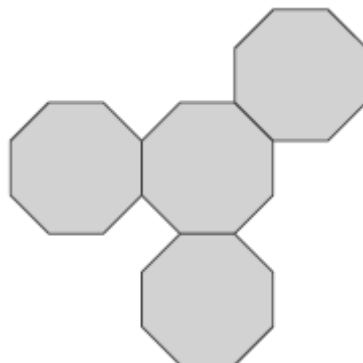
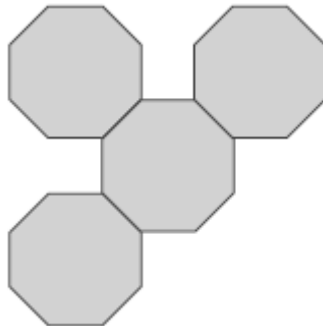
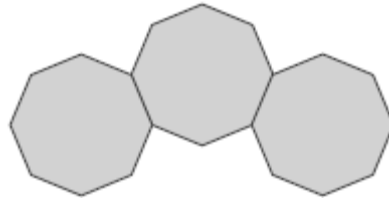
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**Q1.** These diagrams are made from regular octagons.

Draw the line of symmetry on each diagram.

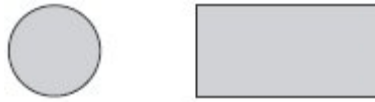
Use a ruler.

*Handwritten mark*



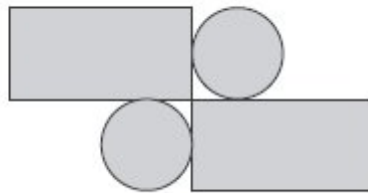
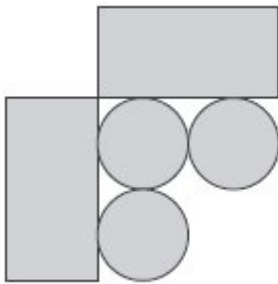
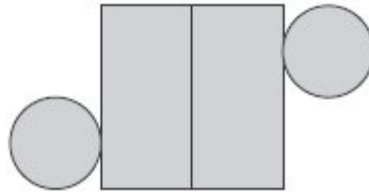
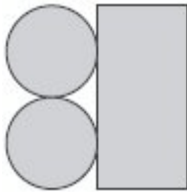
2 marks

**Q2.** Amy has some circular tiles and some rectangular tiles.



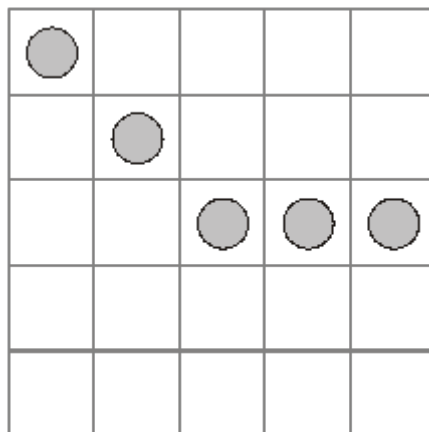
She makes these patterns with them.

For each pattern, put a tick (✓) if it has a line of symmetry.  
Put a cross (✗) if it does not.



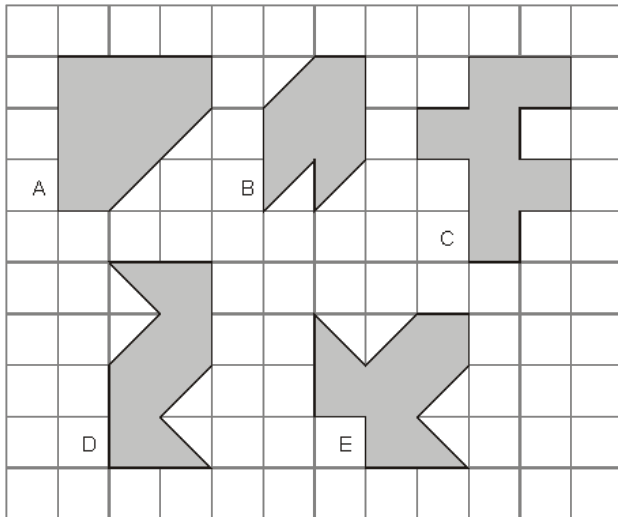
2 marks

**Q3.** Draw **two** more circles on this grid to make a design that has a line of symmetry.



1 mark

**Q4.** Here are five shapes on a square grid.

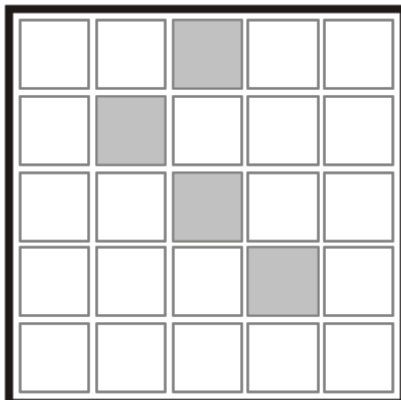


Write the letters of the **two** shapes which have a line of symmetry.

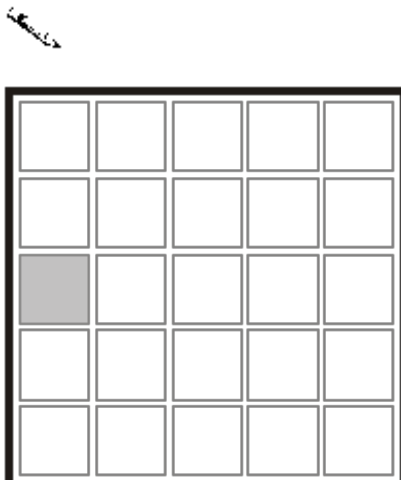
..... and .....

2 marks

**Q5.** Ben makes this design on a grid.



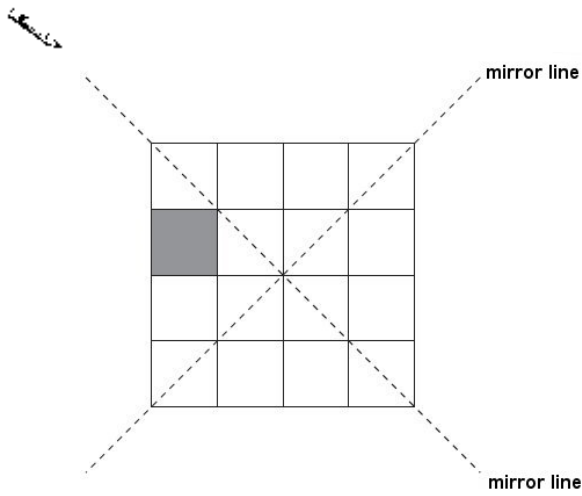
He rotates the grid to a new position. Shade in the missing parts of the design.



1 mark

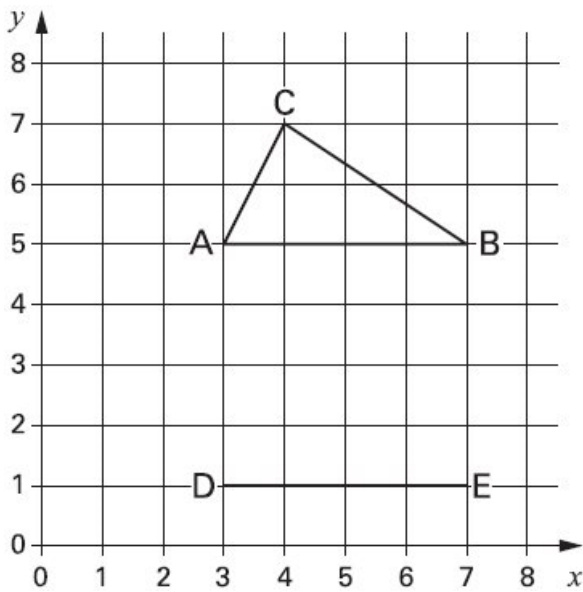
**Q6.** Here is a shaded square on a grid.

Shade in **3 more squares** so that the design is symmetrical in **both** mirror lines.



1 mark

**Q7.** Kyle has drawn triangle **ABC** on this grid.



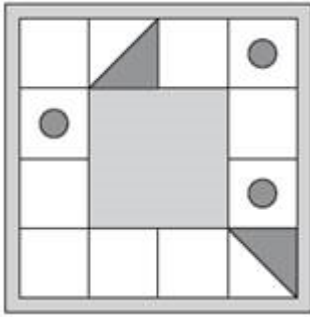
Holly has started to draw an **identical** triangle **DEF**.

What will be the coordinates of point **F**?

(     ,     )

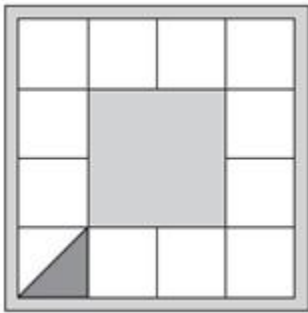
1 mark

**Q8.** Here is a design of dots and triangles on a square tile.



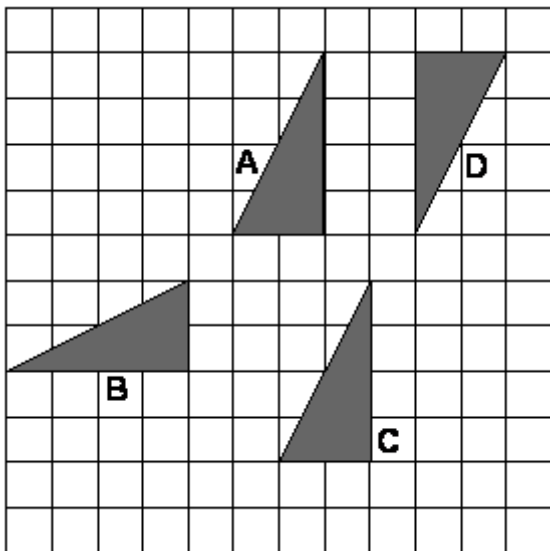
The tile is turned clockwise to the position below.

Shade the missing shapes in their new positions.



2 marks

**Q9.**



Write the correct **letter** in this sentence.



Shape ..... is a **reflection** of shape A.

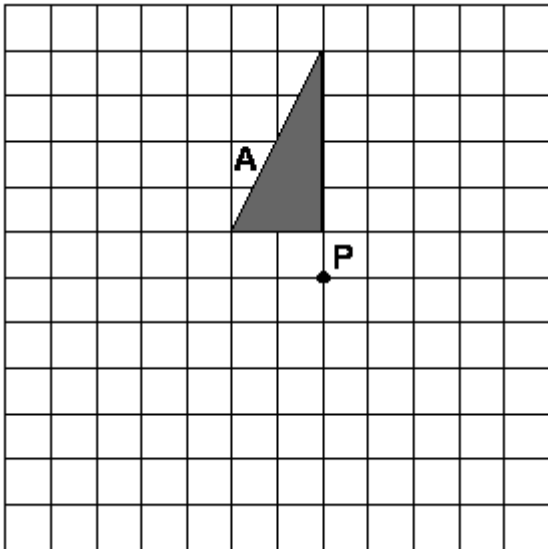
1 mark

Shape A is **rotated 180°** about the **point P**.

Draw **shape A** in its **new** position on the diagram below.

You may use tracing paper.

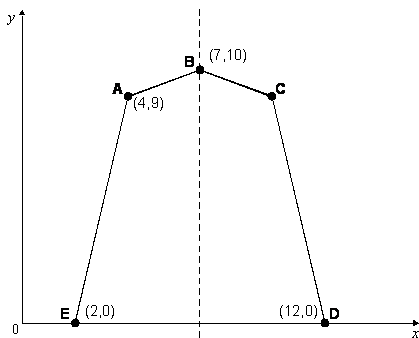
You may use an angle measurer.



2 marks

**Q10.** Here is a pentagon drawn on a coordinate grid.

The pentagon is symmetrical.

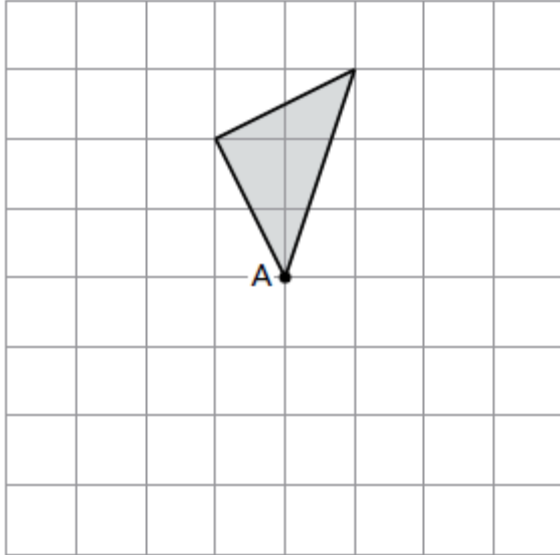


What are the coordinates of point **C**?

1 mark

**Q11.** Here is a shaded triangle on a square grid.

Draw the new position of the triangle when it is **rotated 180°** about point A.



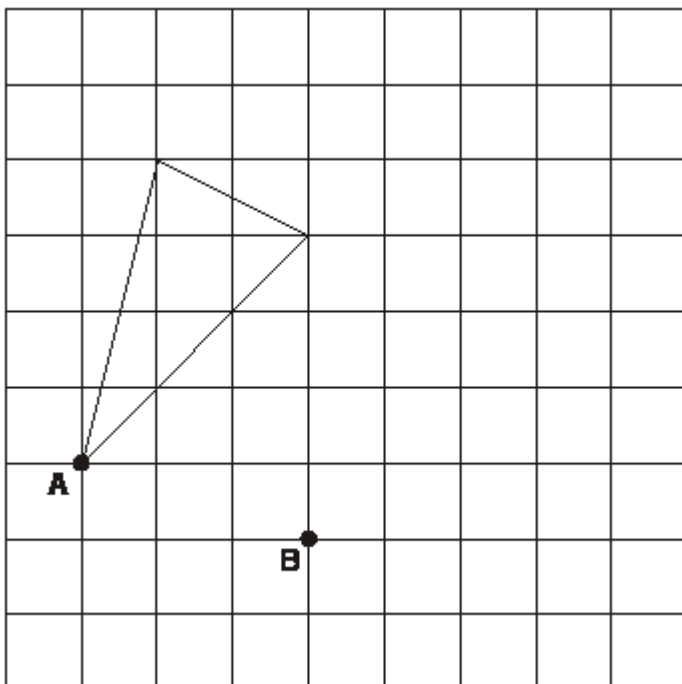
1 mark

**Q12.** Here is a triangle on a square grid.

The triangle is translated so that point **A** moves to point **B**.

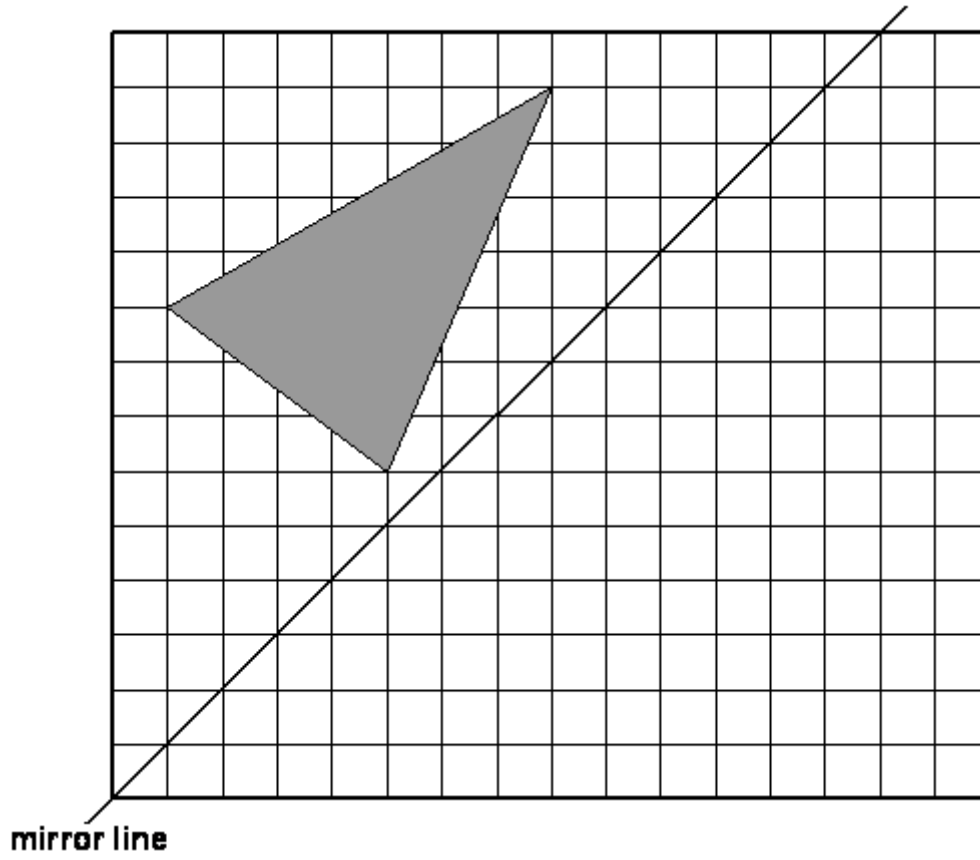
Draw the triangle in its new position.

Use a ruler.



1 mark

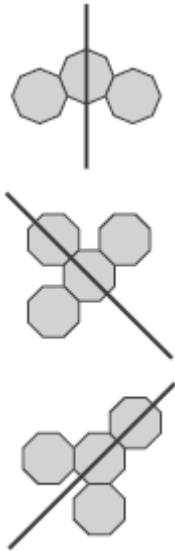
**Q13.** Draw the **reflection** of the shaded triangle in the mirror line.



2 marks



**M1.** Award **TWO** marks for one line of symmetry positioned correctly on each diagram as shown:



If the answer is incorrect, award **ONE** mark for two diagrams completed correctly.

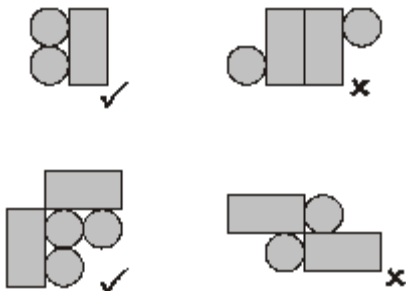
*For the first diagram, accept slight inaccuracies in drawing.*

*For the second and third diagrams, accept inaccurate drawing provided the intention is clear.*

Up to 2

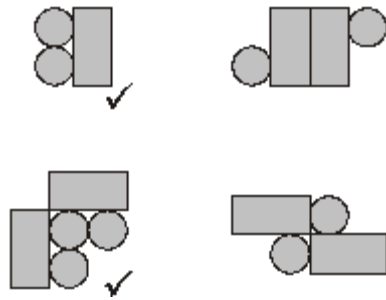
[2]

**M2.** Award **TWO** marks for diagrams ticked or crossed as shown:



*Accept alternative unambiguous indications, eg **Y** or **N**.*

*For **TWO** marks, accept:*



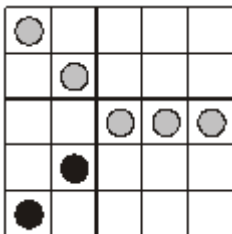
For **TWO** marks accept lines of symmetry drawn on the correct two shapes and the other two shapes left blank.

If the answer is incorrect, award **ONE** mark for three diagrams ticked or crossed correctly.

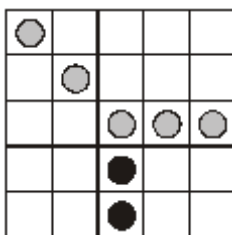
Up to 2

[2]

**M3.** Diagram completed correctly as shown:



OR



Accept alternative unambiguous indications, eg squares shaded, ticked or crossed.

[1]

**M4.** Award **TWO** marks for the correct answers of A **AND** E.  
*Answers may be given in either order.*  
*Accept unambiguous indications on the diagram.*

If the answer is incorrect, award **ONE** mark for:

- only one answer correct

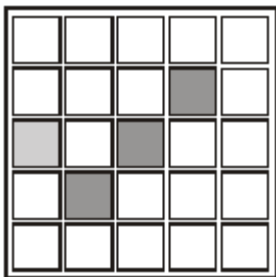
**OR**

- two answers correct and one incorrect.

Up to 2

[2]

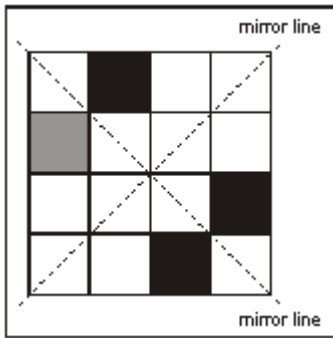
**M5.** Diagram completed as shown:



*Accept inaccuracies in shading provided the intention is clear.*

[1]

**M6.** Diagram completed as shown:



Accept alternative, unambiguous indications such as ticks or crosses, provided the intention is clear.

[1]

**M7.** (4, 3)

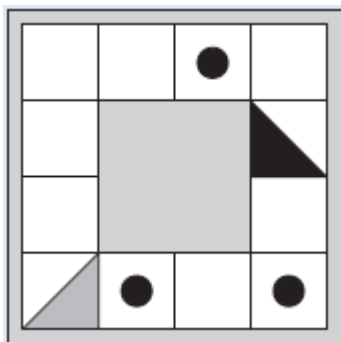
Coordinates must be written in the correct order.

Accept (6, 3), (4, -1) or (6 -1)

Accept answers written on the diagram, with or without brackets and commas.

[1]

**M8.** Award **TWO** marks for the diagram completed correctly as shown:



If the answer is incorrect, award **ONE** mark for three shapes positioned correctly.

Accept inaccurate drawing, provided the intention is clear.

Orientation of the triangle must be unambiguous.

Dots need not be shaded.

Up to 2m

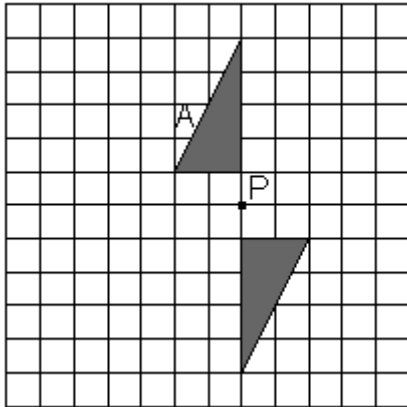
[2]

**M9.** (a) Shape **B** is a reflection of **A**.

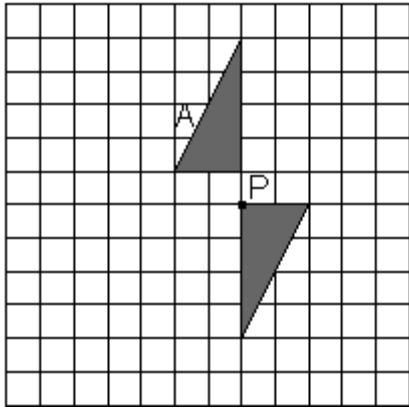
Accept unambiguous indications of **B** (correct triangle) on the diagram if the dotted line is blank.

1

(b) Award **TWO** marks for the lower triangle in the position as shown below.



If the answer is incorrect, award **ONE** mark for the correct rotation, but incorrect position drawn anywhere on the grid, eg:



Triangle need not be shaded.

Up to 2

[3]

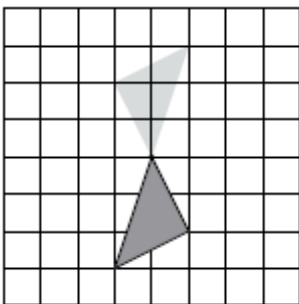
**M10.** (10, 9)

**Coordinates must be in the correct order.**

Accept unambiguous answers written on the diagram.

[1]

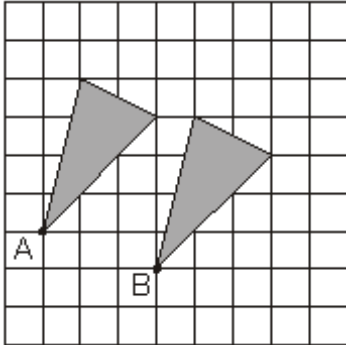
**M11.** Shows the correct rotation, ie



*! Lines not ruled or accurate  
Accept slight inaccuracies in drawing*

[1]

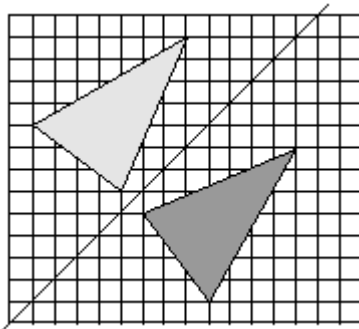
**M12.** Diagram completed as shown:



*Accept slight inaccuracies in drawing  
(see page 3 for guidance).*

[1]

**M13.** Award **TWO** marks for the correct drawing as shown below.



If the triangle is drawn incorrectly, award **ONE** mark for **TWO** vertices of the reflection correctly located on the grid.

If all of the vertices are drawn correctly but the triangle is not drawn or is incomplete, award **ONE** mark.

*Accept drawing errors of up to 1mm from a correct vertex.*

*Triangle need not be shaded.*

**Up to 2**

**[2]**