KULLEĠĠ SAN BENEDITTU
Secondary School, Kirkop

HALF YEARLY EXAMINATION – 2015/2016
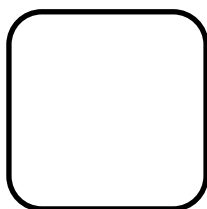
Track 1

FORM 4   **MATHEMATICS Track 1**   **TIME: 20 mins**
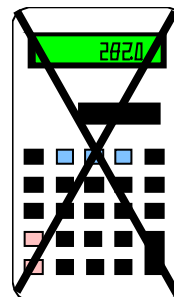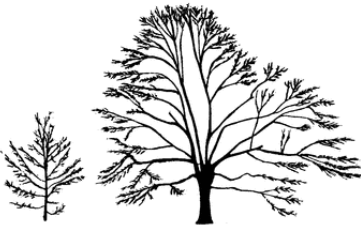
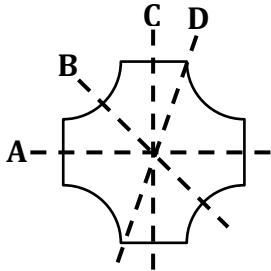**Non Calculator Paper**

DO NOT WRITE ABOVE THIS LINE

NAME AND SURNAME: _____   CLASS:_____

INSTRUCTIONS TO CANDIDATES:

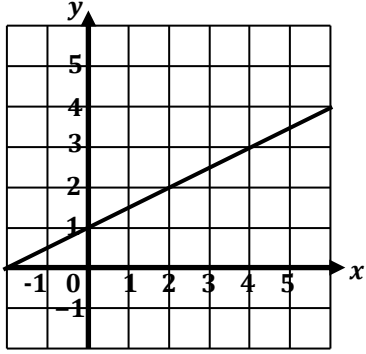**Read all the questions carefully before you start answering.**

- Answer all questions.

- This paper carries 20 marks.

- **Calculators, protractors** and other mathematical instruments are **NOT ALLOWED.**

- On your desk you should have nothing except for **pen, pencil, ruler** and the **examination paper**.

- You are not required to show your working. However, space for working is provided if you need it.
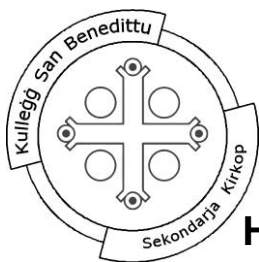
No.	Question	Space for Working
1.	Write a number which is bigger than 7.5 but smaller than 7.6. **Answer:** _____	
2.	The height of the small tree is 2.5 m. **Estimate** the height of the larger tree. **Answer:** _____ m	
3.	Which of the following is a **prime** number? (a) 46　　(b) 47　　(c) 48　　(d) 49 **Answer:** _____	
4.	Convert 123 mm to cm. **Answer:** _____	
5.	Simplify the following expression: $$5x - 7 + y - 8x + 4y$$ **Answer:** _____	
6.	One can of lemonade weighs 0.392 kg. Work out the weight of 10 cans of lemonade? **Answer:** _____	
7.	Choose the **largest** from the following: (a) $\frac{2}{3}$　　(b) 0.7　　(c) $\frac{3}{5}$　　(d) $\frac{1}{15}$ **Answer:** _____	

No.	Question	Space for Working
8.	**Estimate** the value of 198×2. (a) 100 (b) 200 (c) 400 (d) 800 Answer: _____	
9.	**Round** 45.7847 correct to 2 decimal places. Answer: _____	
10.	Which of the marked lines is **not** a line of symmetry? Answer: _____	
11.	**Fill in** the blanks: $55 \times 5 \ = \ 55 \times$ _____ $\div \ 2$	
12.	**Work out** the value of z when $n = 12$ and $p = 2$: $$z = \frac{n - p}{2}$$ Answer: _____	
13.	Medicine comes in bottles of 120 ml. Rebecca is sick and must take 15 ml of medicine **twice** a day. (a) How much medicine must she take in 1 day? Answer: _____ ml (b) How many days will it take Rebecca to finish the bottle? Answer: _____ days	

No.	Question	Space for Working
14.	**Work out**: 250×40 Answer: _____	
15.	You are given the following units: **m, cm, kg, g, l, ml** Choose the most appropriate unit to use in each of the following situations: (a) The mass of a pen Answer: _____ (b) The height of a building Answer: _____	
16.	Which of these solids is **not** a prism? Answer: _____	
17.	Work out: 25% of €40 Answer: _____	
18.	Choose a coordinate that is on the given line. A. $(5, 3)$ B. $(1, 1)$ C. $(4, 3)$ Answer: _____	

END OF NON-CALCULATOR PAPER

KULLEĠĠ SAN BENEDITTU
Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2015/2016

TRACK 1

FORM 4   **MATHEMATICS** TRACK 1   **TIME: 1 hr 40 mins**

Main Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non-Calculator	**Global Mark**
Max. Mark	6	8	5	8	4	5	5	4	7	6	6	8	8	80	20	**100**
Mark																

DO NOT WRITE ABOVE THIS LINE

NAME AND SURNAME: _____   **CLASS:_____**

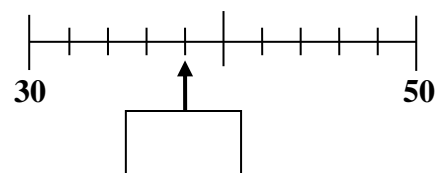
<u>**INSTRUCTIONS TO CANDIDATES**</u>:

Read all the questions carefully before you start answering.

- Answer all questions.
- This paper carries 80 marks.
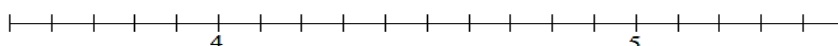- Calculators and mathematical instruments are allowed but all necessary working must be shown.

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1. (a) To play in a local basketball team, one must be **at least** 170 cm tall.
   Circle those who can play in this basketball team.

Victor: **165 cm**	Shaun: **1.82 m**	Anna: **170 cm**	Jessica: **1.9 m**

   (b) **Fill in** the value marked with an arrow on the number line.

   (c) On the number line below, **mark** with an arrow and **label**: A = 4.1 and B = 4.95.

(6 marks)

2. (a) Fill in the blanks to complete the sequence:

   3.5,   4.3,   5.1,   _____ ,   6.7,   _____

(b) Use your calculator to work out: 391.25 – 192.19
    Give your answer correct to **1 decimal place**.

    Answer: _____

(c) Use your calculator to work out: 89.3 + 93.2
    Give your answer to the **nearest whole number**.

    Answer: _____

(d) Arrange these decimal numbers in **ascending order (smallest to largest)**:

   0.402,   0.42,   0.375,   1.2

    Answer: _____, _____, _____, _____

    (8 marks)

3. Find the value of:

   (a) $2(x + 5)$ when $x = 1$

   Answer:_____

   (b) $\frac{m}{2} + n$ when $m = 8$ and $n = 2$

   Answer:_____

   (5 marks)

4. Andrew has a stationery shop and makes an order for pens.
Pens come in boxes of 20. Andrew buys 3 boxes of pens.
He pays €27.87 for the 3 boxes.

(a) What is the cost of **one box** of pens?

Answer: €_____

(b) What is the cost of **one** pen? Write the **full answer** on your calculator.

Answer: €_____

(c) **Round** the answer in (b) to:

(i) the **nearest cent**   (ii) the **nearest 10 cents**

Answer: (i) € _____   Answer: (ii) € _____

(d) Which rounding used in (c) would you suggest Andrew to use, when selling each pen? Explain your answer.

_____

_____

(8 marks)

5. In a football match, teams get 3 points for a **win**, 1 point for a **draw** and 0 points when they **lose** a game.

In the league season 2014-2015, Juventus obtained **26 wins**, **9 draws** and **3 losses**.
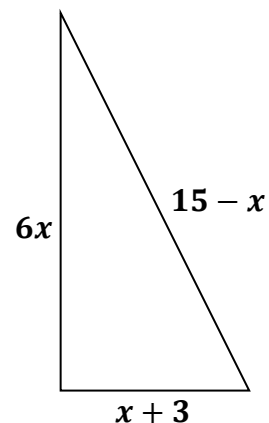Work out the **total number of points** that Juventus obtained.

Answer:_____

(4 marks)

6. The diagram shows a triangle with three given sides (in cm):

$$x + 3, \quad 6x \quad \text{and} \quad 15 - x$$

(a) Write an expression for the **perimeter P** of this triangle.

Answer: P = _____

(b) Work out the **perimeter** of the triangle when $x = 2$.

Answer:_____

(5 marks)

7. The following are some of the ingredients needed for a cake.

(a) Work out the total weight, in **kg**, of the ingredients.

400 g flour
0.5 kg sugar
200 g cocoa powder

Answer: _____kg

(b) Write down the **readings** of the following balance scales.

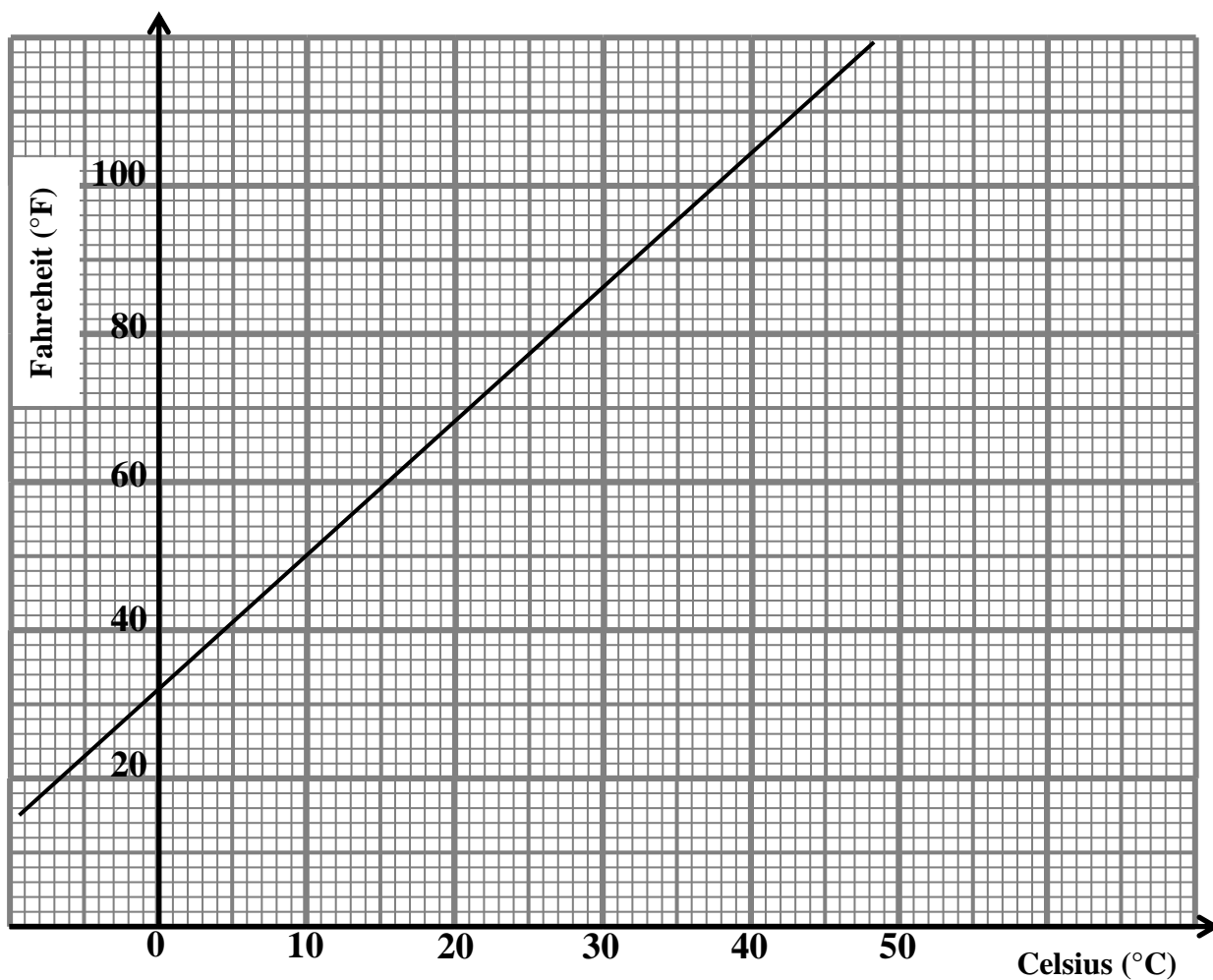_____ g   _____ kg   _____ kg

(5 marks)

8. This conversion graph below is used to change temperatures in degrees Celcius (°C) and degrees Fahrenheit (°F).

(a) Water has a temperature of 50°F. What is this temperature in °C?

Answer: _____°C

(b) The temperature today is 22°C. What is this temperature in °F?

Answer: _____°F

(c) **Convert** the following:

    i)   32°F to degree Celcius (°C)   Answer: _____°C

    ii) 40°C to degree Fahrenheit (°F)   Answer: _____°F

(4 marks)

9. **Fill in** with numbers from the given set.

2, 3, 4, 5, 6, 7, 9, 24, 27,
28, 33, 36, 48, 64, 91, 93

(a) The value of 3^3 Answer: _____

(b) A square number   Answer: _____

(c) A prime number between 90 and 100   Answer: _____

(d) Two common multiples of 6 and 12   Answer: _____ , _____

(e) Two common factors of 18 and 36   Answer: _____ , _____

(7 marks)

10. A company pays Chris **€12.50 an hour** and **€15 an hour for overtime**.

(a) In January, Chris works 120 hours with another 12 hours overtime.
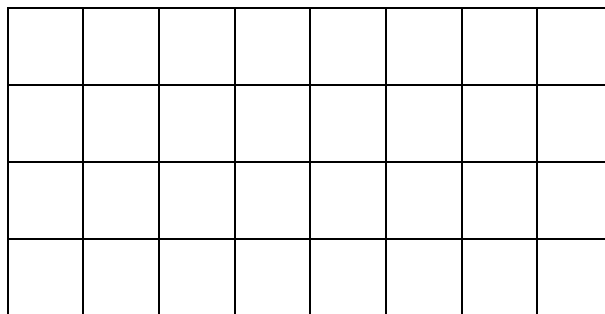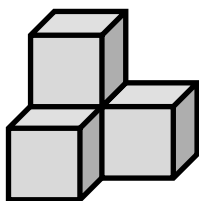   How much money does Chris earn in January?

Answer: €_____

(b) If Chris works *n* normal hours and *t* overtime hours in a month, write a formula to
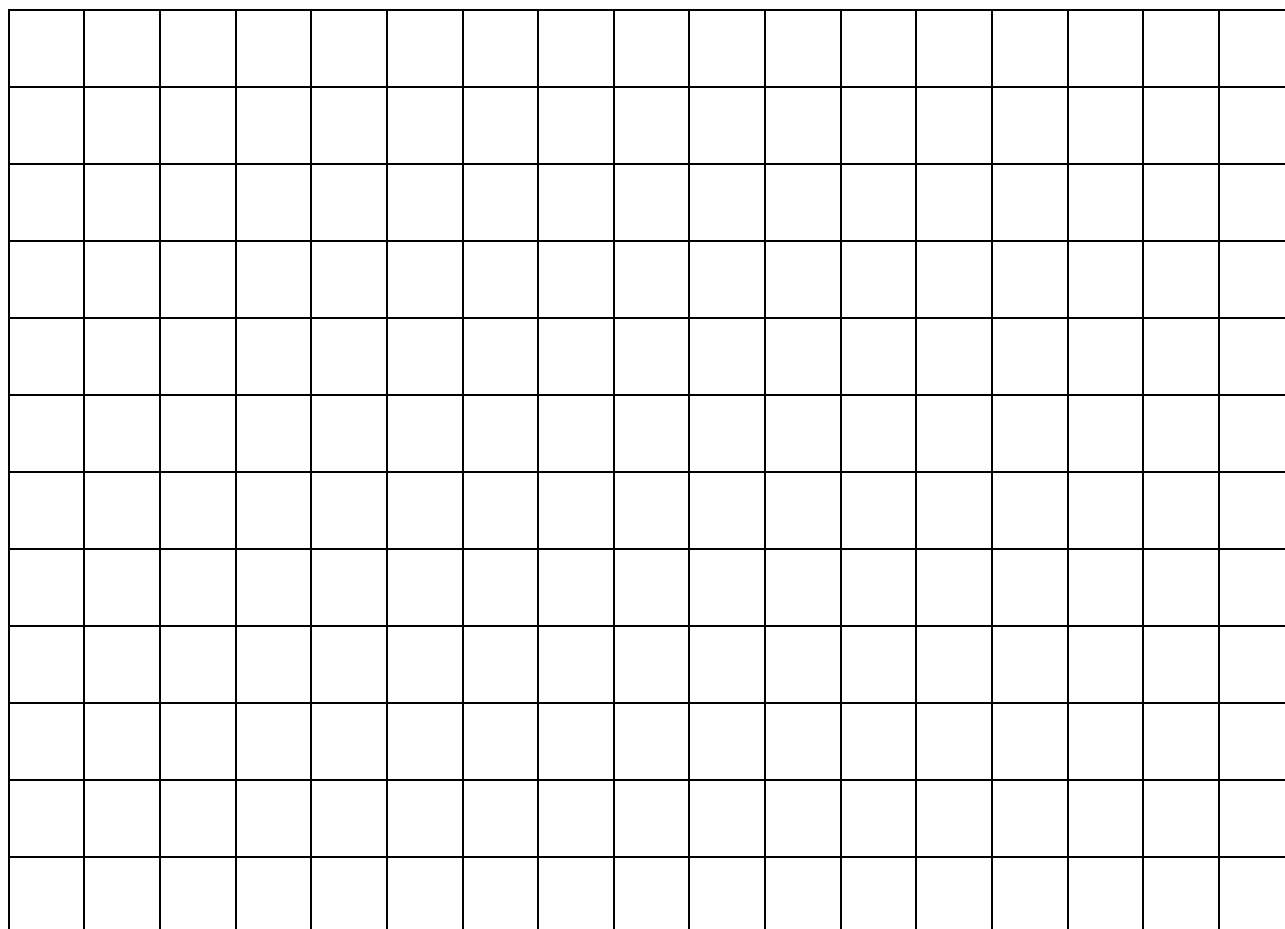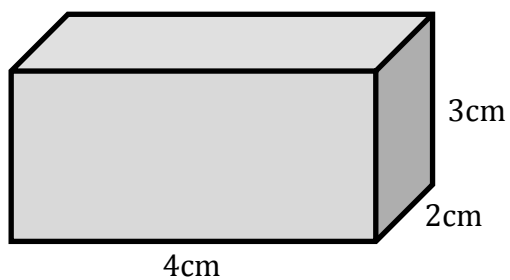   calculate his pay, **P**, every month.

Formula: P =_____

(6 marks)

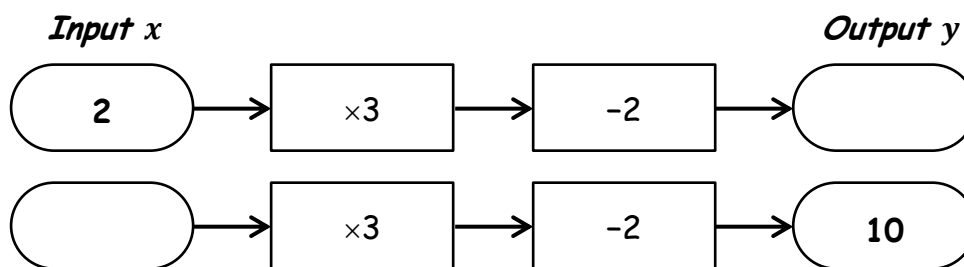11. (a) Draw the **front view** of the given solid, given that each small square of the grid is of side 1cm.

(b) Draw an **accurate** net for this **cuboid**, given that each small square of the grid is of side 1cm.

3cm

2cm

4cm

(6 marks)

12. (a) **Fill in** the following number machines.

Input x   Output y

(2) → [×3] → [−2] → ( )
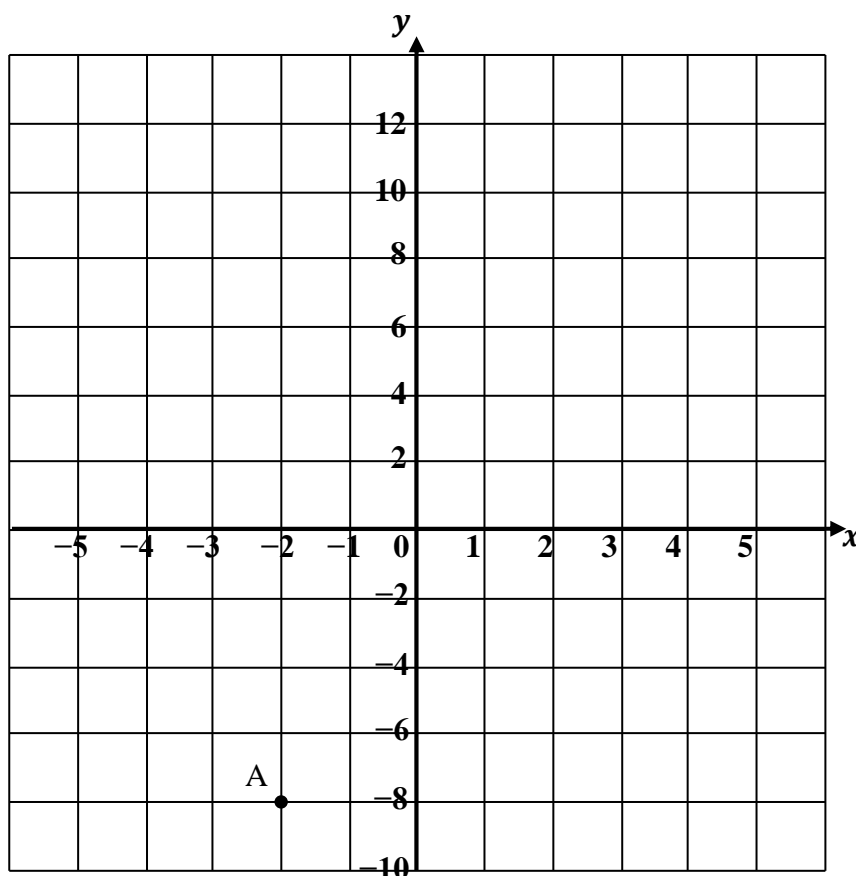
( ) → [×3] → [−2] → (10)

(b) Use your results in part (a) to complete the following pairs of coordinates:

(2 , _____)   and   (_____ , 10)

(c) On the grid, **plot** the above two points.
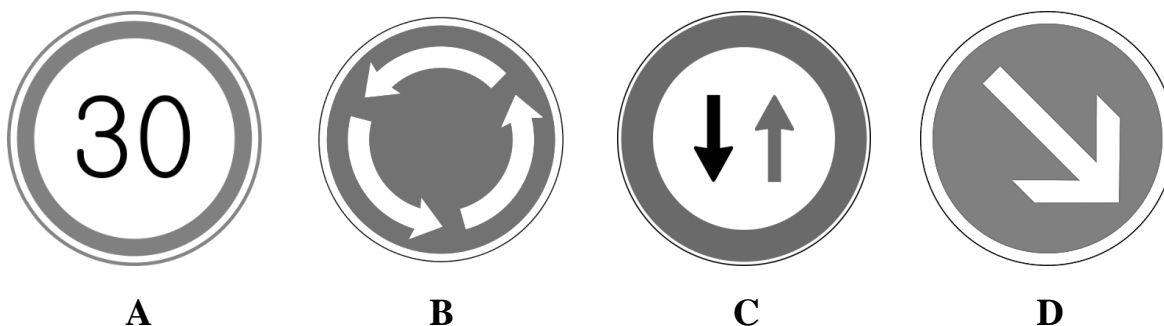
Then draw a line passing through these points and point A.

(d) Use your graph to complete the following pairs of coordinates of points on this line:

(−2 , _____)   and   (_____ , 13)

(8 marks)

13. (a) The following diagram shows four typical road signs **A**, **B**, **C** and **D**.

A **B** **C** **D**

(i) Two of these road signs have **1 line of symmetry**. Which are they?

Answer: _____ , _____

(ii) One of the road signs has **rotational symmetry**.

Which road sign is it? Answer: _____

What is the **order** of its rotational symmetry? Answer: _____

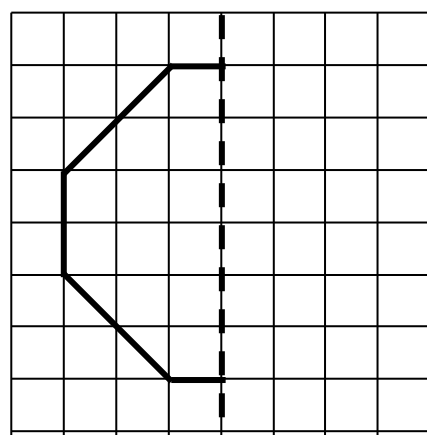(iii) Which sign has **no** lines of symmetry and **no** rotational symmetry?

Answer: _____

(b) The diagram shows part of an **octagon**.

(i) **Complete** the octagon, using the given line of symmetry.

(ii) **Mark all** the lines of symmetry on the diagram.

(iii) What is the **order** of rotational symmetry of the shape?

Answer: _____

(8 marks)

END OF MAIN PAPER