



FORM 4

MATHEMATICS

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
Mark																

DO NOT WRITE ABOVE THIS LINE

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

INSTRUCTIONS TO CANDIDATES:

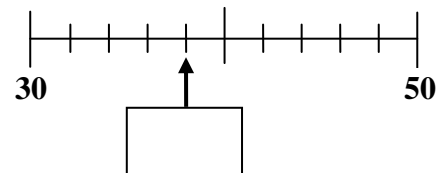
Read all the questions carefully before you start answering.

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

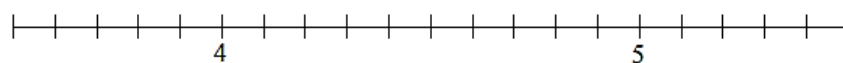
1. (a) To play in a local basketball team, one must be **at least** 170 cm tall.
 Circle those who can play in this basketball team.

Victor: 165 cm	Shaun: 1.82 m	Anna: 170 cm	Jessica: 1.9 m
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- (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? Explain your answer.

(8 marks)

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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.

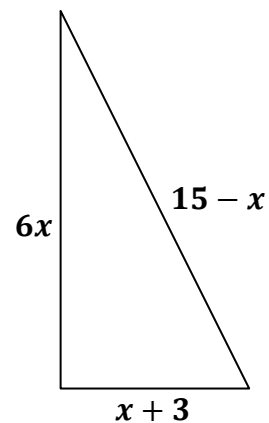
Answer: _____

(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



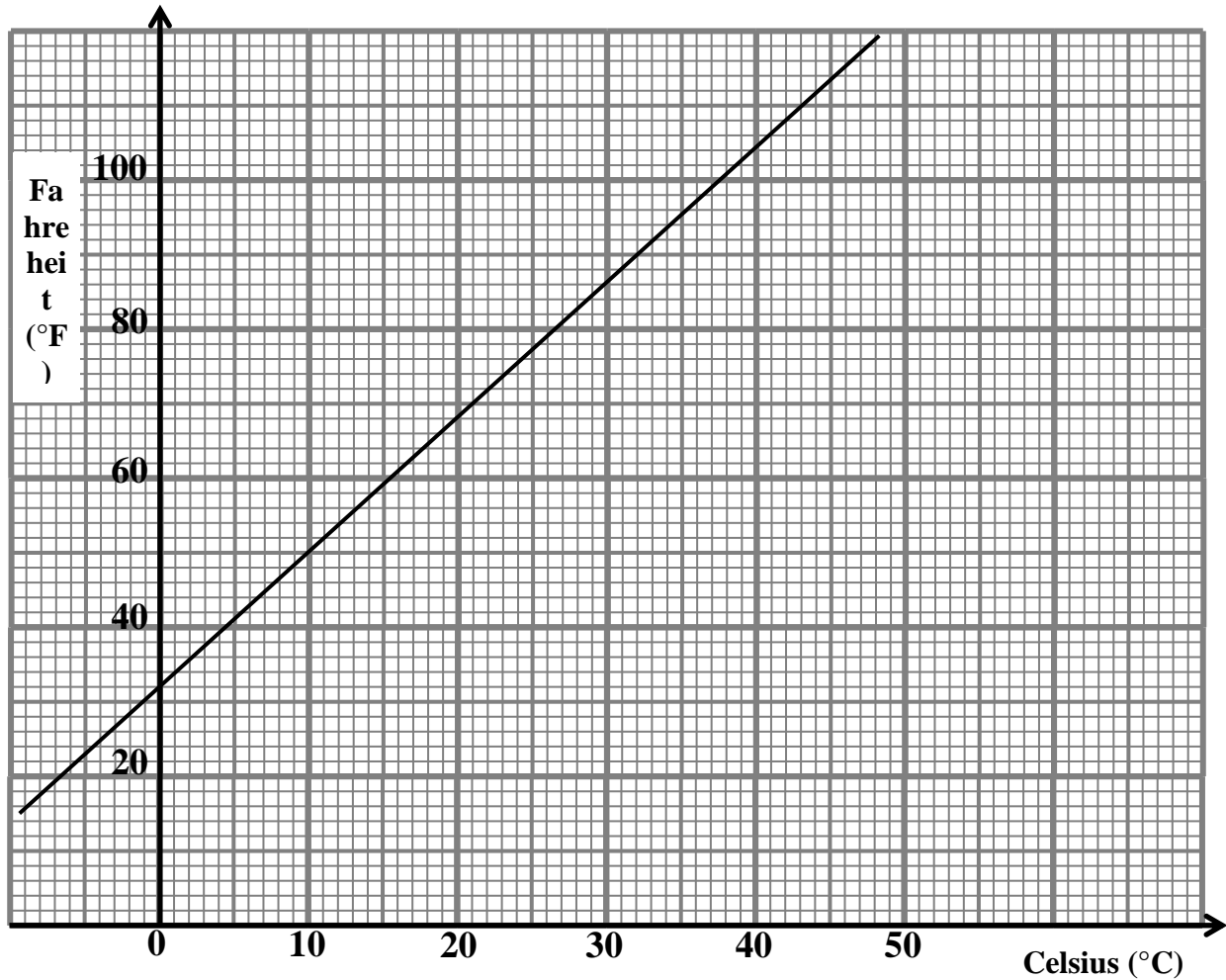
_____ kg



_____ kg

(5 marks)

8. This conversion graph below is used to change temperatures in degrees Celcius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$).



- (a) Water has a temperature of 50°F . What is this temperature in $^{\circ}\text{C}$?

Answer: _____ $^{\circ}\text{C}$

- (b) The temperature today is 27°C . What is this temperature in $^{\circ}\text{F}$?

Answer: _____ $^{\circ}\text{F}$

- (c) **Convert** the following:

i) 32°F to degree Celcius ($^{\circ}\text{C}$)

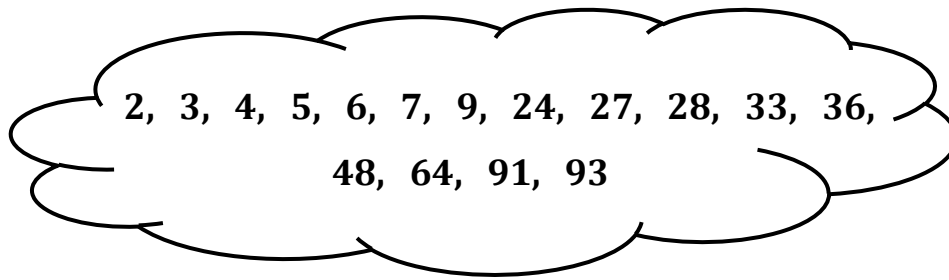
Answer: _____ $^{\circ}\text{C}$

ii) 20°C to degree Fahrenheit ($^{\circ}\text{F}$)

Answer: _____ $^{\circ}\text{F}$

(4 marks)

9. **Fill in** with numbers from the given set. A number is to be used **only once**.



- (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?

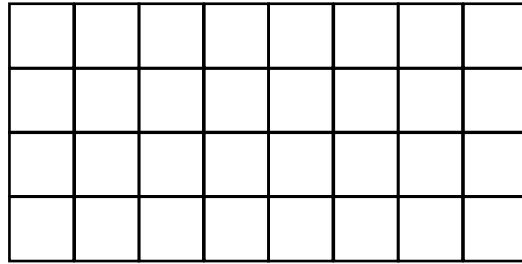
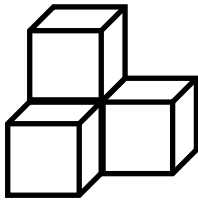
Answer: € _____

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

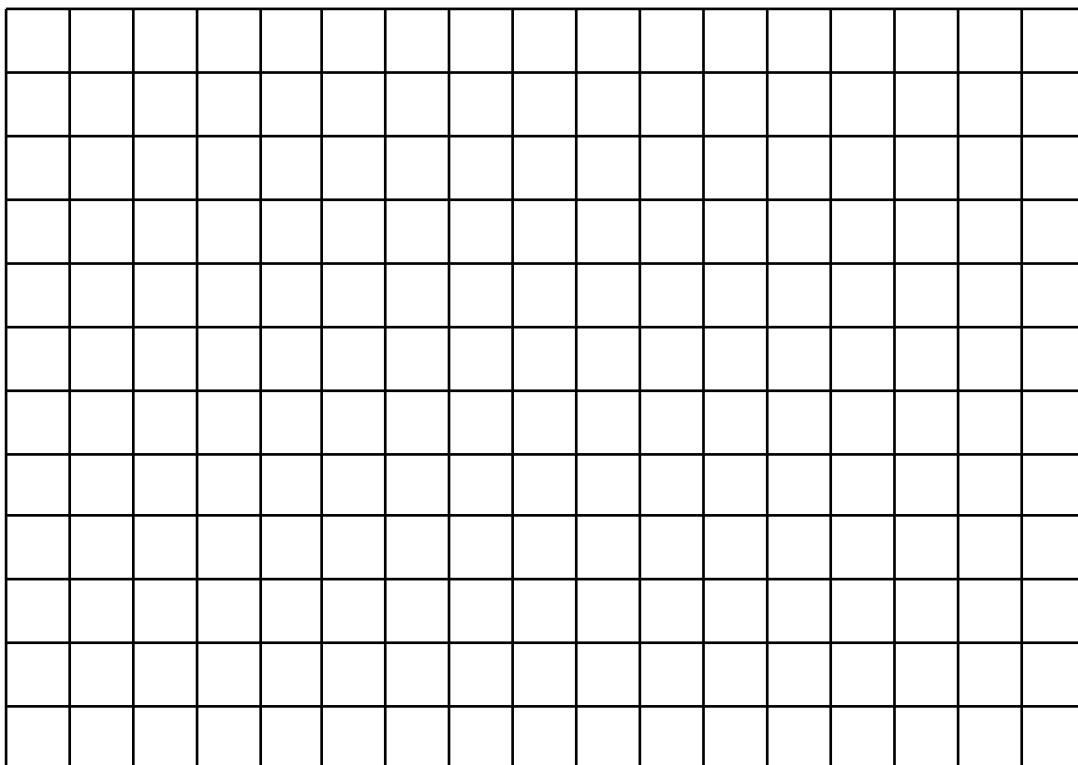
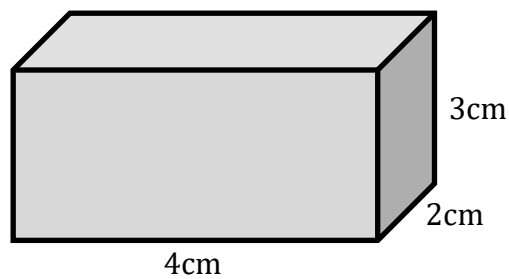
Formula: P = _____

(6 marks)

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

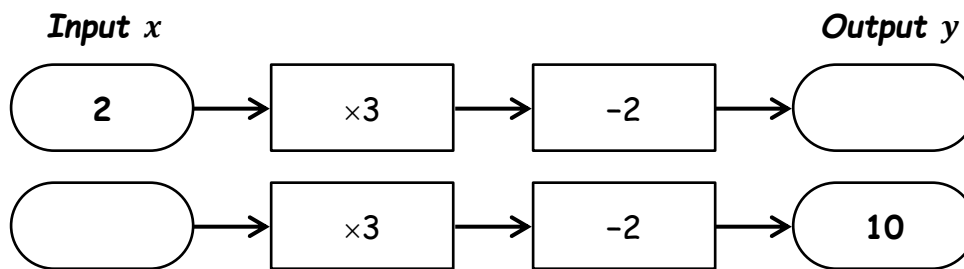


(b) Draw an **accurate net** for this **cuboid**, given that each small square is of side 1 cm.



(6 marks)

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

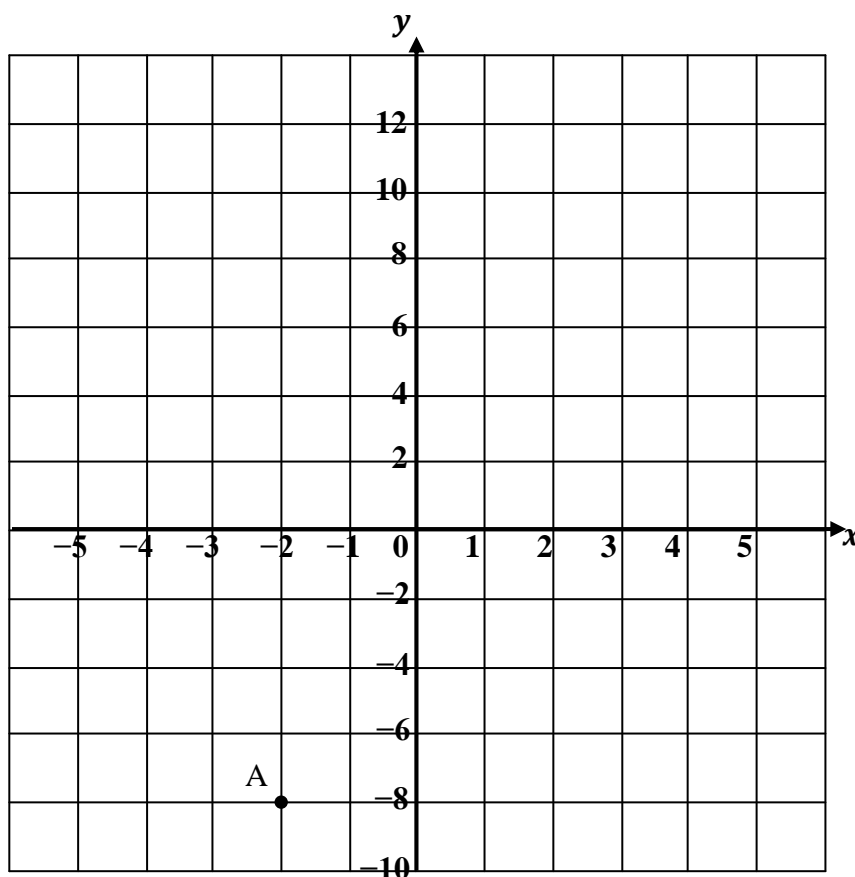


(b) Use your results in part (a) to complete the following pairs of coordinates:

(2 , _____) and (_____ , 10)

(c) On the grid, **plot** the above two points.

Then draw a line passing through these points and point A.

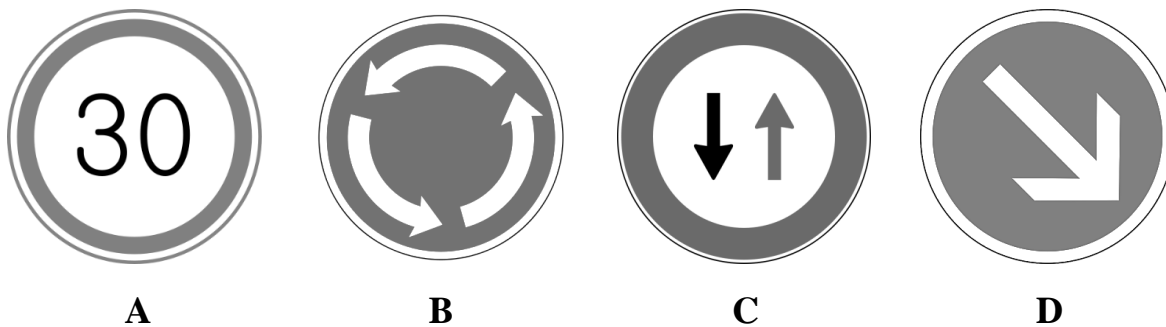


(d) Use your graph to complete the following pairs of coordinates of points on the line:

(-2 , _____) and (_____ , 13)

(8 marks)

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

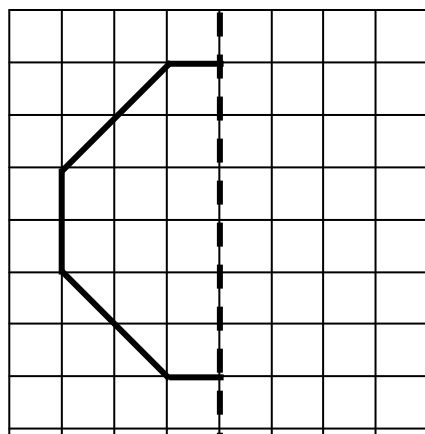
Answer: _____

(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