

FORM 2

MATHEMATICS SCHEME B
Non Calculator Paper

TIME: 30 minutes

Name: _____

Class: _____

Question	1	2	3	4	5	6	7	8	Total
Mark									

Instructions to Candidates

- **Answer all questions.**
 - **This paper carries a total of 25 marks.**
 - **Calculators and protractors are NOT ALLOWED.**
-

1. Arrange the following numbers in order, **largest first**.

0.07 , 0.7 , 0.27 , 0.72 , 7.2 , 2.7

_____ , _____ , _____ , _____ , _____ , _____ .

(1 mark)

2. Which three of the following are **equivalent to** $\frac{3}{4}$?

$\frac{4}{3}$, $\frac{6}{8}$, 34% , 75% , $\frac{21}{28}$, 3.4

_____ , _____ , _____

(3 marks)

3. Work out as **decimals**:

a) $\frac{139}{100} =$ _____

b) $0.075 \times 100 =$ _____

c) $1 - 0.88$

d) $(2.46 + 1.58) \div 4$

Ans: _____

Ans: _____

(5 marks)

4. Fill in the blanks with the following numbers: 2 , 3 , 4 , 12 , 24

a) _____ and _____ are multiples of 6.

b) _____ and _____ are factors of 6.

(3 marks)

c) The LCM of _____ and 5 is 20.

5. Mariella and Fleur are playing a game using this spinner. Mariella wins if she gets a **quadrilateral** while Fleur wins if she gets a **prime number**.

a) What is the probability that **Mariella wins**?

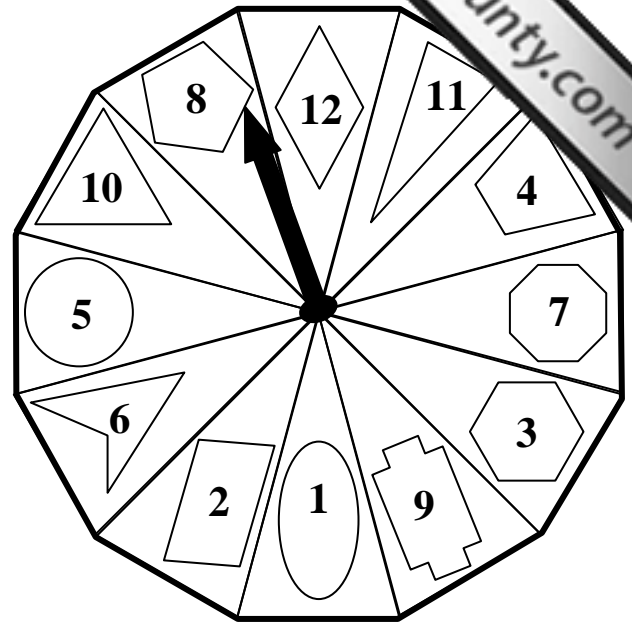
Ans: _____

b) What is the probability that **Fleur wins**?

Ans: _____

c) Underline the shape which gives a win to **both players**.

Rhombus, Parallelogram, Trapezium .

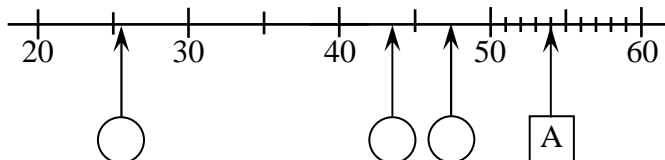


(3 marks)

6. a) **Shade** the circle which shows 43.7.

b) Write down the value indicated by the **square** marked A.

Ans: _____



(2 marks)

7. a) Round the following numbers correct to **1 decimal place**.

(i) 9.0543 → _____

(ii) 6.198 → _____

(iii) 0.51 → _____

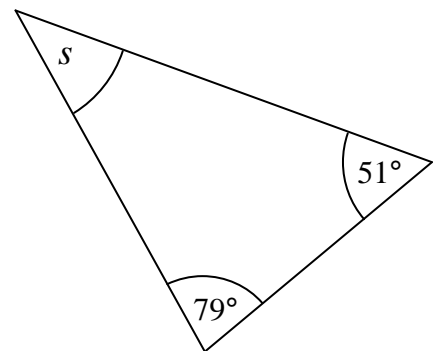
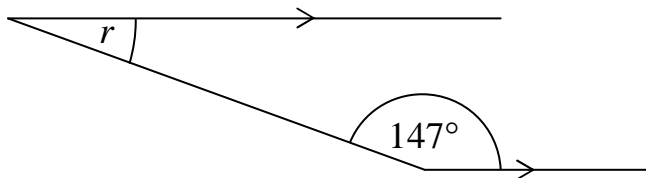
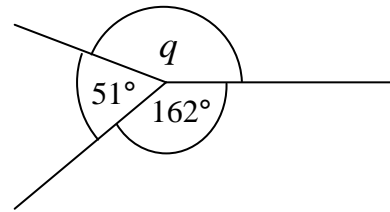
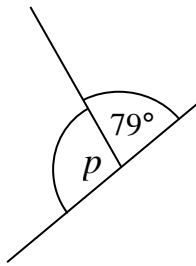
b) Use your answers in (a) to **estimate** the value of:

$$9.0543 + 6.198 \times 0.51$$

Ans: _____

(4 marks)

8. Work out the value of each angle marked with a letter.



Ans: $p = \text{_____}^\circ$ $q = \text{_____}^\circ$ $r = \text{_____}^\circ$ $s = \text{_____}^\circ$

_____ (4 marks)

END OF PAPER

DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2012

FORM 2

MATHEMATICS SCHEME B
Main Paper

TIME: 1h 30min

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calc	Global Mark
Mark																

DO NOT WRITE ABOVE THIS LINE

Name: _____

Class: _____

CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN.
ANSWER ALL QUESTIONS.

1. Use your **calculator** to work out the following:

(a) $(3.5 + 7.92) \div 0.02$

Ans: _____

(b) $\sqrt{80}$ Correct to 1 decimal place.

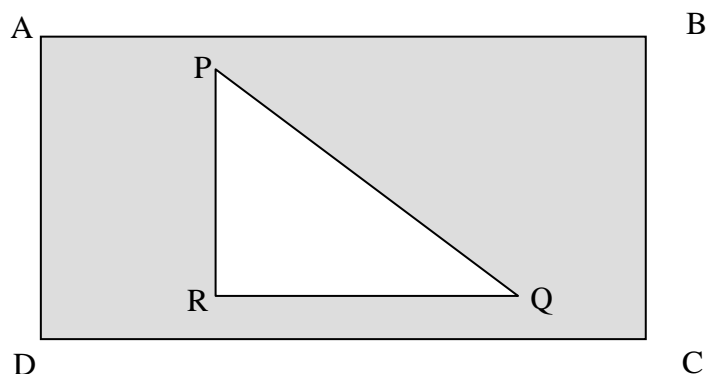
Ans: _____

(c) $4 \cdot 96^2$ Correct to 3 decimal places.

Ans: _____

_____ (5 marks)

2. The diagram shows a right-angled triangle PQR drawn inside a rectangle ABCD.



- (a) Use your ruler to **measure** the following:

AB = _____ cm ; BC = _____ cm

PR = _____ cm ; QR = _____ cm ; PQ = _____ cm

- (b) Use your measurements to calculate:

- (i) the **perimeter** of the **rectangle**.

Ans: _____ cm

- (ii) the **area** of the **rectangle**.

Ans: _____ cm²

- (iii) the **area** of the **triangle**.

Ans: _____ cm²

- (iv) the **shaded** area.

Ans: _____ cm²

(9 marks)

Name _____

Class _____

3.

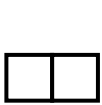
(a) **Simplify:** $4a + 3a + 2a$ (b) **Expand:** $4(3y - 1)$

Ans: _____

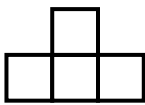
Ans: _____

(c) If $A = 2x - y$ (d) **Solve** the equation: $3x + 12 = 27$ Calculate A when $x = 3$ and $y = -2$.Ans: $A =$ _____Ans: $x =$ _____

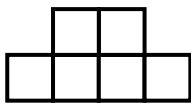
(7 marks)

4. This pattern is made of squares. Each square has an **area of 5 cm^2** .

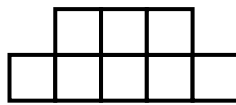
Stage 1



Stage 2



Stage 3



Stage 4

Stage 5

(a) Draw the missing pattern in stage 5.

(b) Complete the table.

Stage	Number of squares	Area in cm^2
1	2	10
2	4	20
3	6	
4		
5		

(5 marks)

5. Anne sits for 7 examinations and scores the following marks: 23, 60, 65, 67, 68, 70, 72.

(a) What is the **median** mark?

Ans: median = _____

(b) Calculate the **mean** mark.

Ans: mean = _____

(c) What is the **mode**?

Ans: mode = _____

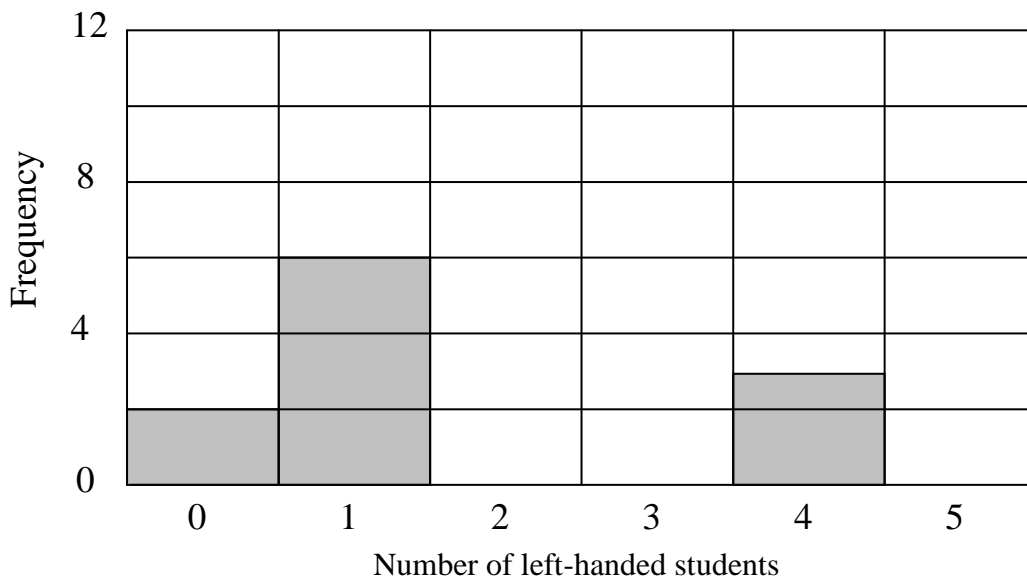
(d) Underline the correct word:

The (median, mean, mode) **best represents** all of Anne's scores.

(5 marks)

6. A survey on all the classes at a school is carried out to find the number of left-handed students in each class. Complete the frequency table and the bar chart below that show the results.

Number of left-handed students	0	1	2	3	4	5
Frequency (Number of classes)	2		12	9		1



(5 marks)

Name _____

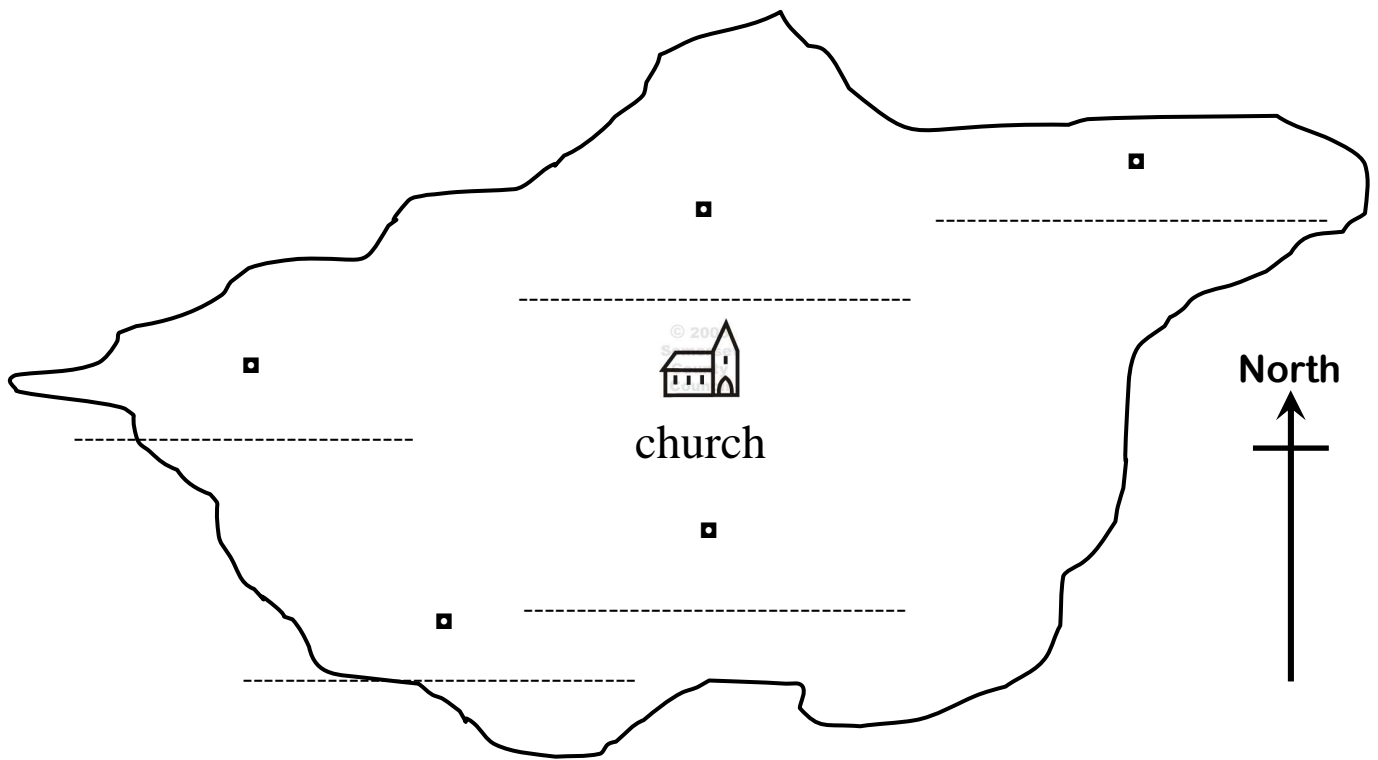
Class _____

7.

This is a map of a village with a **church**, a **pharmacy**, a **school**, a **bank**, a **council hall** and a **shopping centre**.

- The church is South of the school and North of the pharmacy.
- The bank is West of the church and NW of the council hall.
- The shopping centre is NE of the pharmacy.

(a) Write down these six places on the map.



(b) Write down the **three-figure bearing** of the shopping centre from the pharmacy.

Ans: _____

(7 marks)

8.

(a) Which of these shapes have reflective symmetry only? Ans: _____

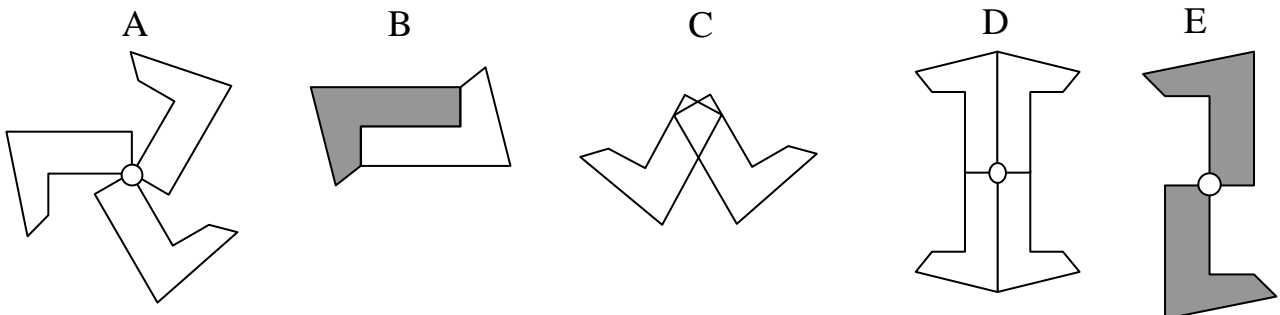
(b) Which of these shapes have rotational symmetry only? Ans: _____

(c) Which of these shapes have **both** reflective and rotational symmetry?

Ans: _____

(d) Which of these shapes have **neither** reflective nor rotational symmetry?

Ans: _____



(4 marks)

9.

3750 persons attended a concert. 24% were adults, 62% were youths and the rest were children.

(a) What **percentage** were children?

Ans: _____%

(b) **How many** were adults?

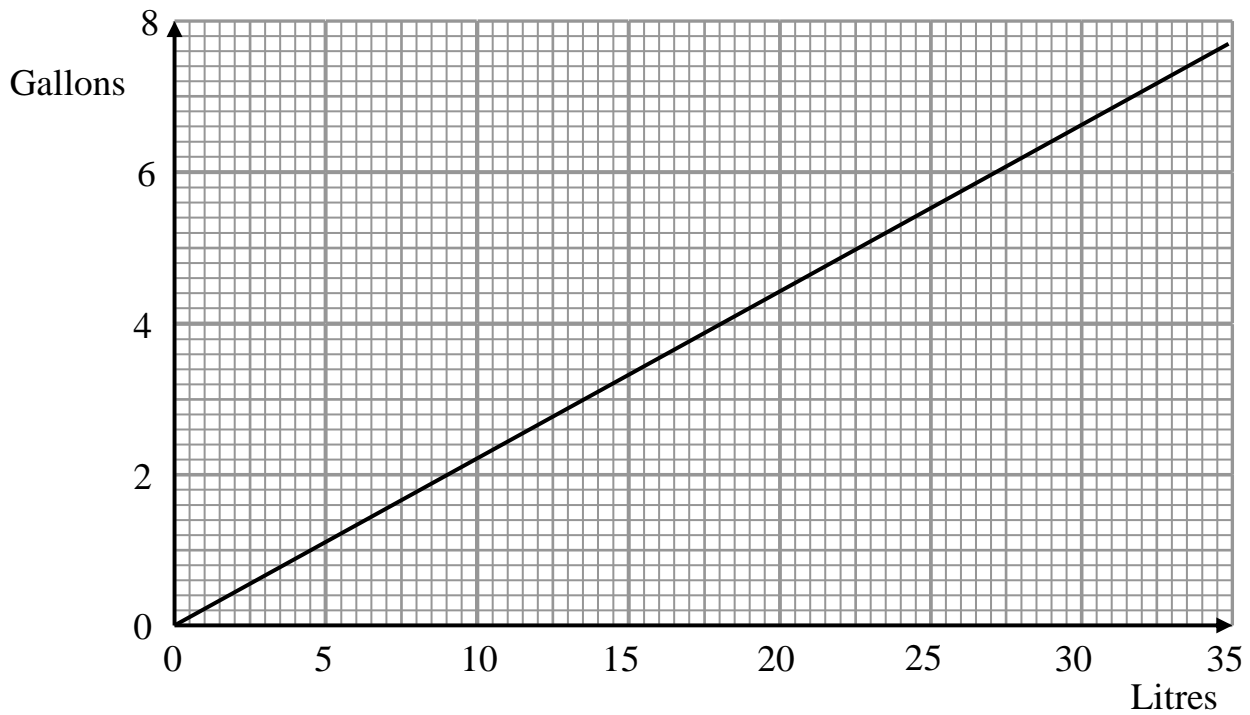
Ans: _____adults

(c) **How many** were children?

Ans: _____children

(5 marks)

10. This graph is a conversion graph for gallons and litres.



Use this graph to:

(a) Convert **5 gallons** into litres.

Ans: _____ litres

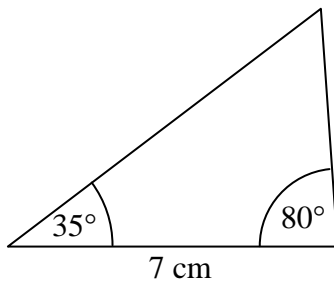
(b) Convert **20 litres** into gallons.

Ans: _____ gallons

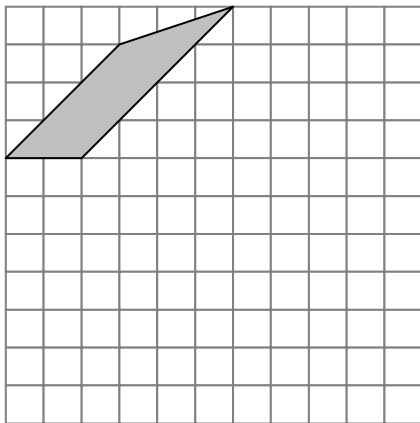
_____(4 marks)

11.

- (a) Use **ruler** and **protractor only** to make an accurate drawing of this triangle:



- (b) Translate the quadrilateral 4 right and 5 down.



(6 marks)

12. Martin is 6 years old, Ralph is 18 years old and Brian is 30 years old.

- (a) **Simplify** the ratio:

$$6 : 18 : 30 = \underline{\hspace{1cm}} : \underline{\hspace{1cm}} : \underline{\hspace{1cm}}$$

- (b) Divide €288 between Martin, Ralph and Brian in the ratio of their ages.

Ans: Martin gets €

Ralph gets €

Brian gets €

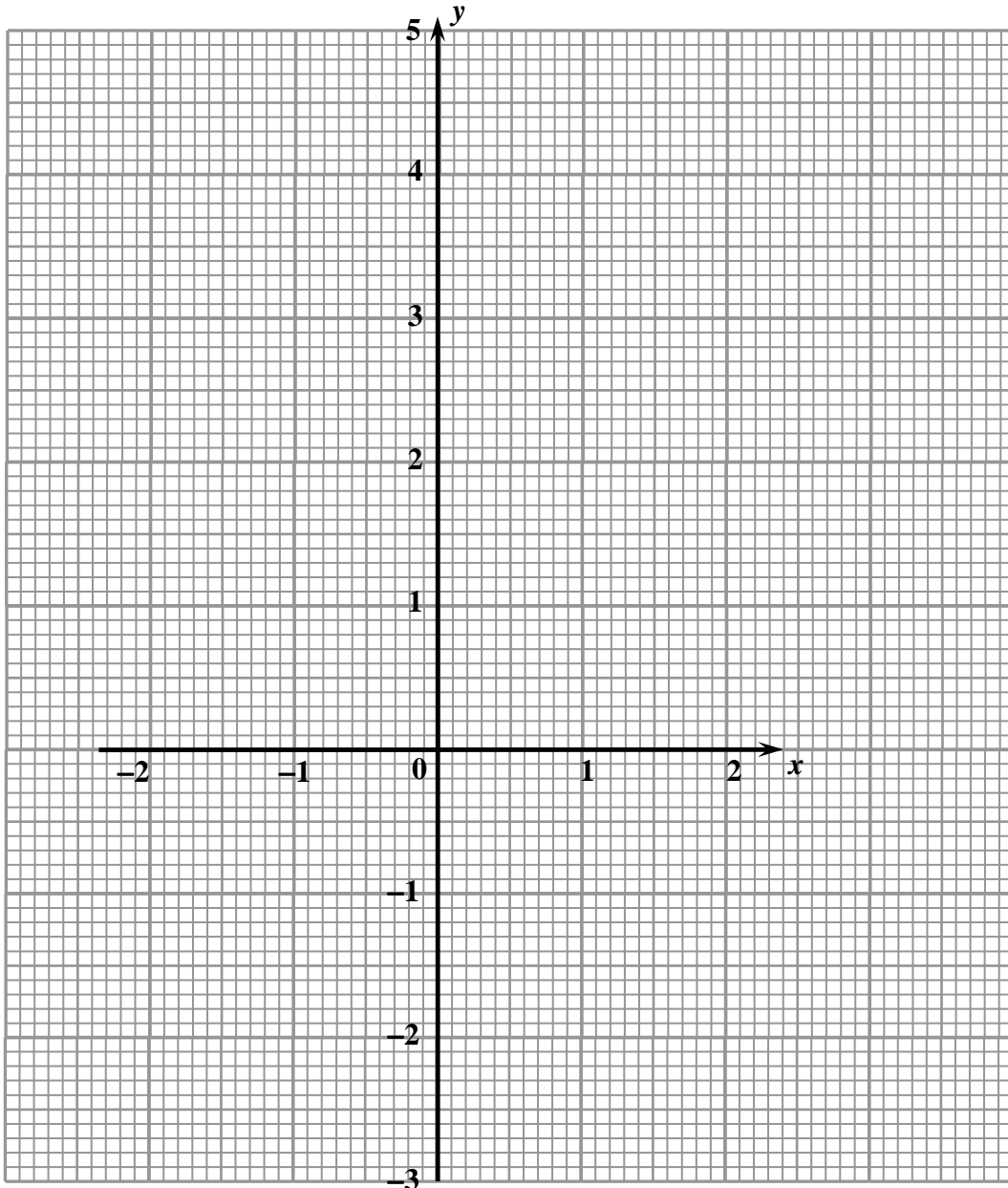
(7 marks)

13.

(a) Complete the table for $y = 2x + 1$.

x	-2	-1	0	1	2
$2x$		-2			4
+1		+1		+1	
y		-1			5

(b) Draw the graph of $y = 2x + 1$ on the grid below.



(c) Write down the value of y when $x = 1.5$.

Ans: $y = \underline{\hspace{2cm}}$

(6 marks)

END OF PAPER