SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010
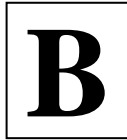Directorate for Quality and Standards in Education
Educational Assessment Unit

B

FORM 1   **MATHEMATICS SCHEME B**   **TIME: 30 minutes**
Non-Calculator Paper

Name: _____   **Class:** _____

Question	1	2	3	4	5	6	7	Total
Mark								

Instructions to Candidates

- **Answer all questions.**

- **This paper carries a total of 25 marks.**

- **Calculators and protractors are not allowed.**

1. Place the following **four** numbers in order of size, the **smallest** first.

$$500 \times 1000 \qquad 56\,000 \qquad 10^2 \qquad 1\text{ million}$$

_____

(4 marks)

2. Mario wants to share €465 equally between **15** people.

How much does **each** person get?

_____

(2 marks)

3. Change $\dfrac{22}{1000}$ to a **decimal** number.

_____

(2 marks)

4. (a) Work out $\dfrac{7}{12} + \dfrac{1}{12}$ and give your answer to its lowest term.

_____

(b) Write in its simplest form $2\text{ m} : 50\text{ cm}$

_____

(4 marks)

5. A bag of potatoes weighs **60 kg**.

   Mary carries $\frac{1}{5}$ of it, and Jane carries 50% of it.

   (a) How much weight is **Mary** carrying?

   _____

   (b) How much weight is **Jane** carrying?
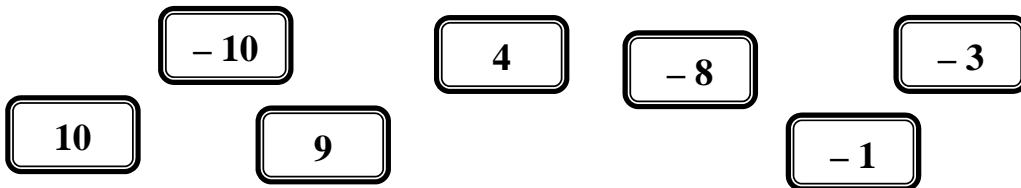
   _____

   (c) Who is carrying more weight?   _____

   (d) How much more is she carrying?

   _____

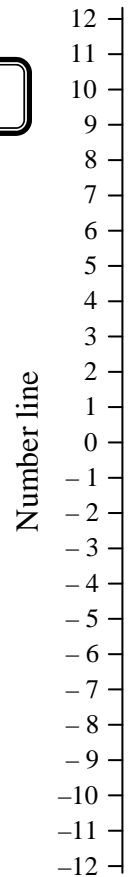   *(5 marks)*

6. Jonathan has these **seven** number cards:

   | – 10 | | 4 | – 8 | | – 3 |

   | 10 | 9 | | – 1 |

   Choose a card so that

   (a) [   ] + [10] = 0

   (b) [   ] – [– 8] = 12

   (c) [9] + [   ] = – 1

   (d) [9] – [   ] = 10

   Write your answers above in the blank cards.

   Number line
   12
   11
   10
   9
   8
   7
   6
   5
   4
   3
   2
   1
   0
   – 1
   – 2
   – 3
   – 4
   – 5
   – 6
   – 7
   – 8
   – 9
   –10
   –11
   –12

   (4 marks)

7. **Round** each number to the nearest whole number and then **work out** the approximate answer.

The first one is done for you.

	Problem	**Nearest whole number**	**Approximate answer**
(a)	$6 \cdot 3 \times 4 \cdot 51 + 2 \cdot 9$	$6 \times 5 + 3$	33
(b)	$8 \cdot 1 + 6.68$		
(c)	$25 \cdot 33 \times 1 \cdot 8$		

(*4 marks*)

END OF PAPER

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010
Directorate for Quality and Standards in Education
Educational Assessment Unit

B

FORM 1   **MATHEMATICS SCHEME B**   TIME: 1h 30min
Main Paper

Question	1	2	3	4	5	6	7	8	9			
Mark												

Question	10	11	12	13	14	15	16	17	Total Main	Non Calculator	**Global Mark**
Mark											

DO NOT WRITE ABOVE THIS LINE

Name: _____   **Class:** _____

- **Answer all questions.**
- **This paper carries 75 marks.**
- **Calculators and mathematical instruments are allowed but all necessary working must be shown.**

---

1. I left home at **22:30** to spend the night fishing.

    I returned home **5 hours 30 minutes** later.

    (a) At what time did I return?

    _____

    (b) **Show** this time on the cuckoo clock.

    (3 marks)

2.

5 cm

8 cm

5 cm

A toy is packed in a box.

The box is **5 cm** long, **5 cm** high and **8 cm** wide.

(a)   What is the **volume** of the box in cm³?

_____

The boxes are packed in a large wooden crate.

It can contain exactly **80** toy boxes.

(b)   What is the **volume** of the inside of the crate in cm³?

_____

Each toy box weighs **0·5 kg**.

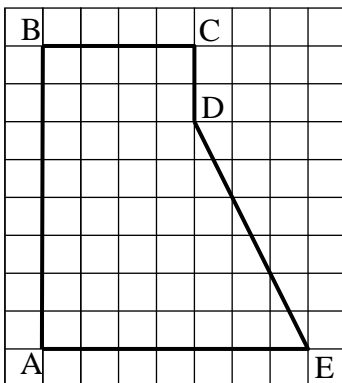The wooden crate weighs **4 kg** when empty.

(c)   What is the **total** weight in kg of the crate when full of toy boxes?

_____

(7 marks)

3.

B   C

D

A   E

Work out the **area** of shape ABCDE.
Each square in the grid is 1 cm².

_____

(5 marks)

4.   From this tombola card,

	11	25		40		64	72	
5		27	31		54			81
	13		38		58	68		87

(a) list two **prime** numbers.   _____   _____

(b) list two multiples of **3**.   _____   _____

(c) list two **square** numbers.   _____   _____

(d) find a number and its square root.   _____   _____

━━ (*4 marks*)

5.   Write in order the **smallest** first:

0·3   0·13   3·0001   0·33

_____

━━ (*2 marks*)

6.

60 t.s.

100 t.s.

80 t.s.
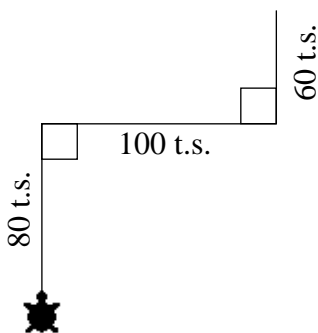
Continue writing the **LOGO** commands below to draw the shape on the left. 't.s.' means 'turtle steps'.

PD
FD 80
RT

━━ (*3 marks*)

7. This **function machine** doubles the input I and then adds one, to obtain output P.

Input $\boxed{I}$ $\xrightarrow{\times 2}$ $\boxed{}$ $\xrightarrow{+1}$ **Output** $\boxed{P}$

Fill in:

(a) **Input** $\boxed{4}$ $\xrightarrow{\times 2}$ $\boxed{}$ $\xrightarrow{+1}$ **Output** $\boxed{}$

(b) **Input** $\boxed{}$ $\xrightarrow{\times 2}$ $\boxed{}$ $\xrightarrow{+1}$ **Output** $\boxed{7}$
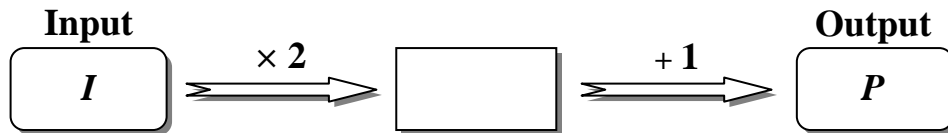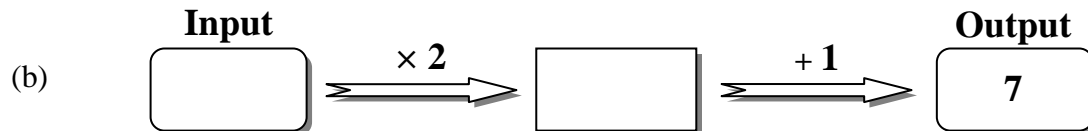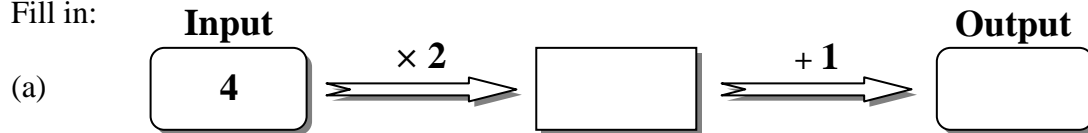
(c) When $I = 0$, $P = \boxed{}$.

(d) When $I = \boxed{}$, $P = 10$.

—— (*4 marks*)

8. Line **PQ** is a line of symmetry.

(a) Draw the rest of the shape.

(b) Draw all the lines of symmetry of the completed shape.

(c) Write down the order of rotational symmetry of the completed shape.

    _____
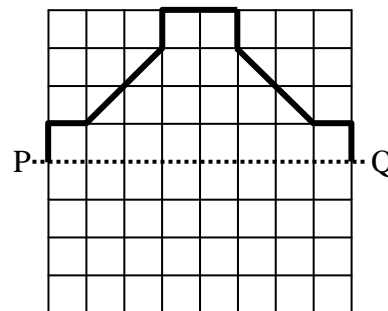
—— (*4 marks*)

9. **Ten** students go to an art exhibition. Their ages are as follows:

        11   12   10   12   9   11   12   10   9   12

(a) What is the **mode** of their ages?   _____

(b) What is the **range** of their ages?   _____

(c) Work out the **mean** of their ages.

                                                  _____

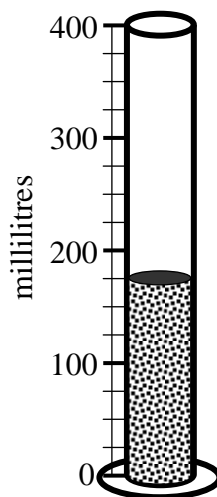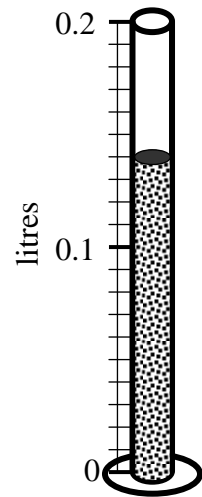—— (*6 marks*)

10.
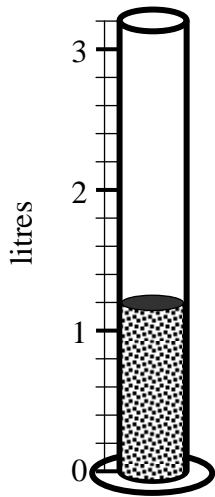
| Test tube A | Test tube B | Test tube C |

Write the **volume** of liquid in these test tubes:

(a) Test tube A _____

(b) Test tube B _____

(c) Test tube C _____

(3 marks)
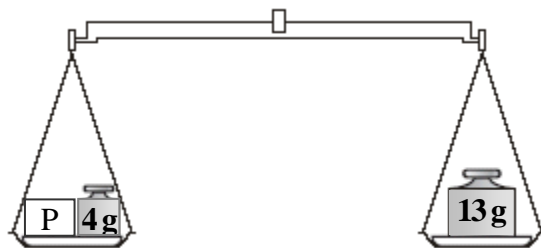
11. (a) **Simplify** (tidy up): $5x - 3y - 2x + 5y$

_____

(b) When $r = 4$ and $s = 5$, what is the **value** of: $3r - s + 3$?
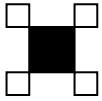
_____

(c) On one side of the scales there is a **packet** P .

(i) Write down the **equation** for this set of scales.   _____

(ii) Calculate how much the packet P weighs, by **solving the equation**.
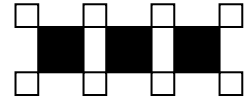
_____

(8 marks)

12. These patterns are made up of black and white squares.
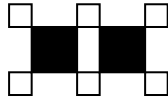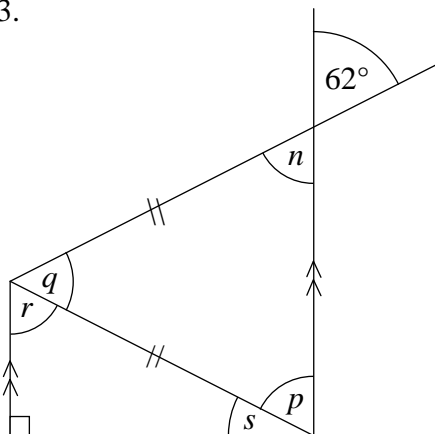

1st pattern   2nd pattern   3rd pattern

Complete this table. You have **four** answers to fill in.

	1st pattern	2nd pattern	3rd pattern		5th pattern		10th pattern
White squares	4	6	8				
Black squares	1	2	3		5		
Total of squares	5	8	11		17		

———————————————————————————————— (*4 marks*)

13.

Look carefully at the diagram.

Work out the missing angles.

(a) $n =$ _____ °

(b) $p =$ _____ °

(c) $q =$ _____ °

(d) $r =$ _____ °

(e) $s =$ _____ °

———————————————————————————————— (*5 marks*)

14. Jesmond throws a six-sided dice.

Work out the **probability** that he scores:

(a) an even number. $\dfrac{\square}{\square}$

(b) a number greater than 4. $\dfrac{\square}{\square}$

(c) a seven. $\square$

———————————————————————————————— (*3 marks*)

15. (a) **Plot** the following:

A (4, – 1) **B** (4, – 4)

C (8, – 5) **D** (8, – 1)
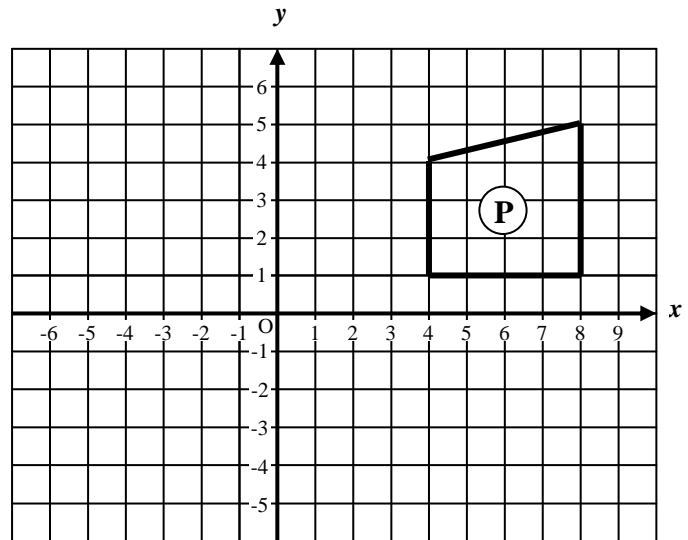
(b) Join **AB**, **BC**, **CD** and **DA**.

(c) Complete:

The shape I have drawn is the

_____ of shape P

in the _____ axis.

Choose: *reflection, translation, x, y*

(d) **Translate** shape P, 10 to the left and 6 down.

(5 marks)

16. The pie chart represents the number of men, women and children that went to a party.
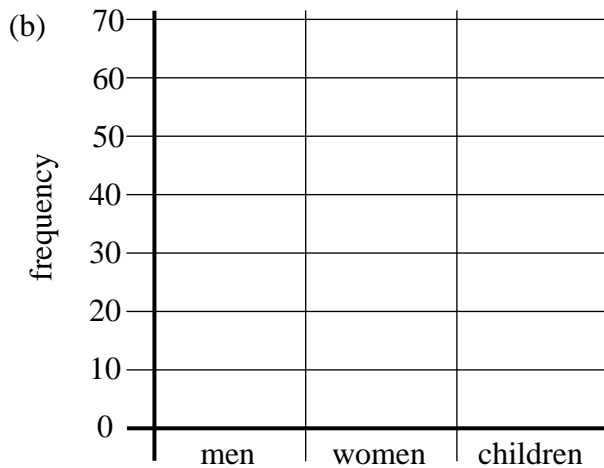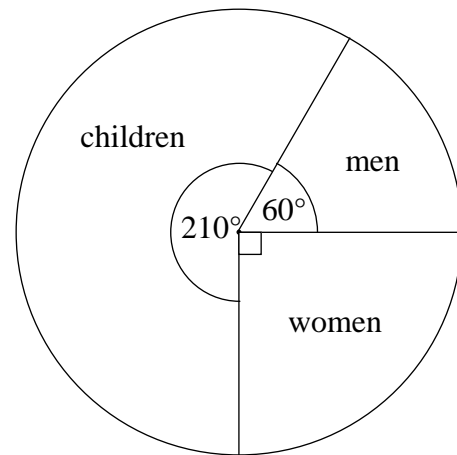
There were **120** people in all.

(a) Complete the following:
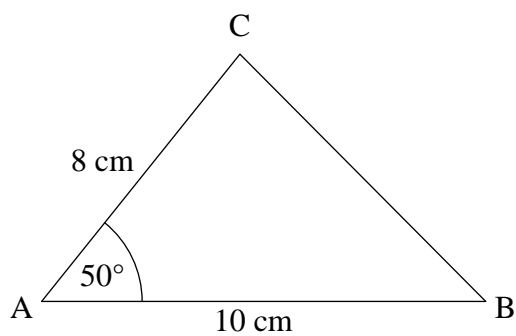
The number of

men was   _____ .

women was _____ .

children was _____ .

(b)

Draw a bar chart to show this information.

(5 marks)

17.   (a) Make an **accurate** drawing of this triangle.

       (b) Measure the length of BC from **your** drawing.

                                                        BC = _____

END OF PAPER