SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

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.

500×1000 56 000 10^2 1 million

_____

(*4 marks*)

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

How much does **each** person get?

_____

(*2 marks*)

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

_____

(*2 marks*)

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

_____

(b) Write in its simplest form 2 m : 50 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?

_____

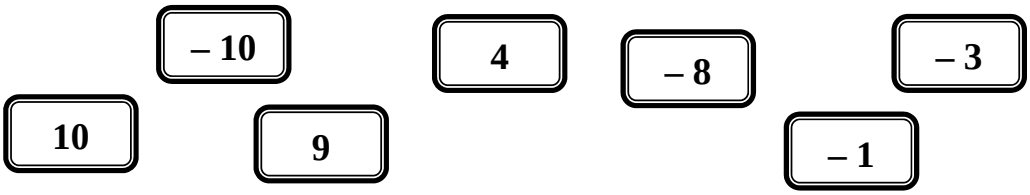
(c) Who is carrying more weight? _____

(d) How much more is she carrying?

_____

(*5 marks*)

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



Choose a card so that

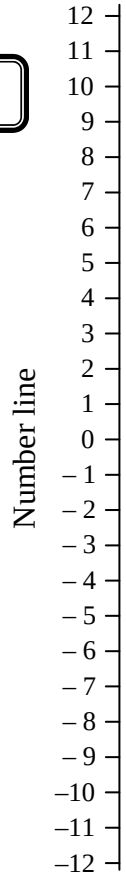
(a) ☐ + **10** = **0**

(b) ☐ – **– 8** = **12**

(c) **9** + ☐ = **– 1**

(d) **9** – ☐ = **10**

Write your answers above in the blank cards.



(*4 marks*)

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

The first one is done for you.

	Problem	Nearest whole number	Approximate answer
(a)	6·3 × 4·51 + 2·9	6 × 5 + 3	33
(b)	8·1 + 6.68		
(c)	25·33 × 1·8		

(*4 marks*)

END OF PAPER

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

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.

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 cm^3?

_____

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 cm^3?

_____

Each toy box weighs **0·5 kg**.

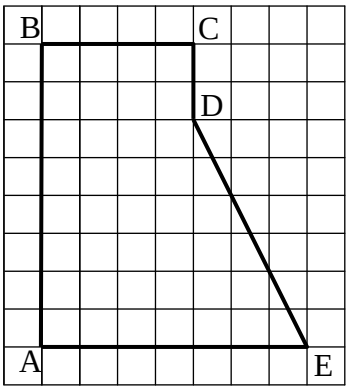
The wooden crate weighs **4 kg** when empty.

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

_____

(*7 marks*)

3.



Work out the **area** of shape ABCDE.
Each square in the grid is 1 cm^2.

_____

(*5 marks*)

Name: _____ **Class:** _____

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*)

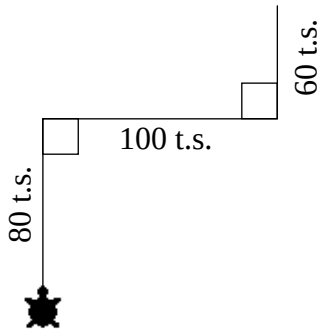
5. Write in order the **smallest** first:

0·3 0·13 3·0001 0·33

_____

(*2 marks*)

6.

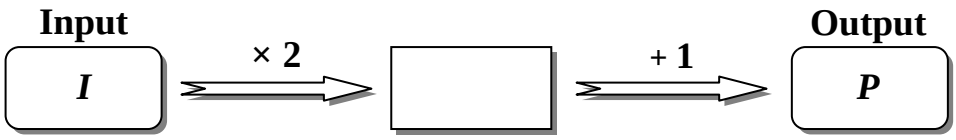


Continue writing the **LOGO** commands below to draw the shape on the left. 't.s.' means 'turtle steps'.

PD
FD 80
RT

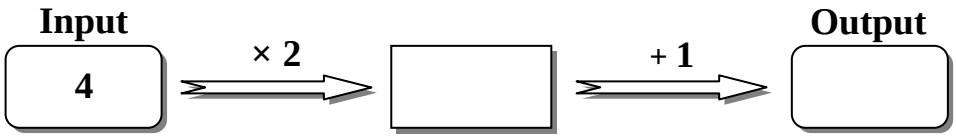
(*3 marks*)

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

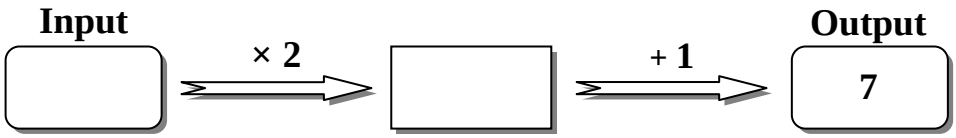


Fill in:

(a)



(b)

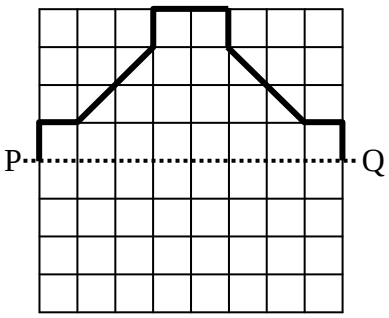


(c) When ***I*** = 0, ***P*** = ☐ .

(d) When ***I*** = ☐ , ***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? _____

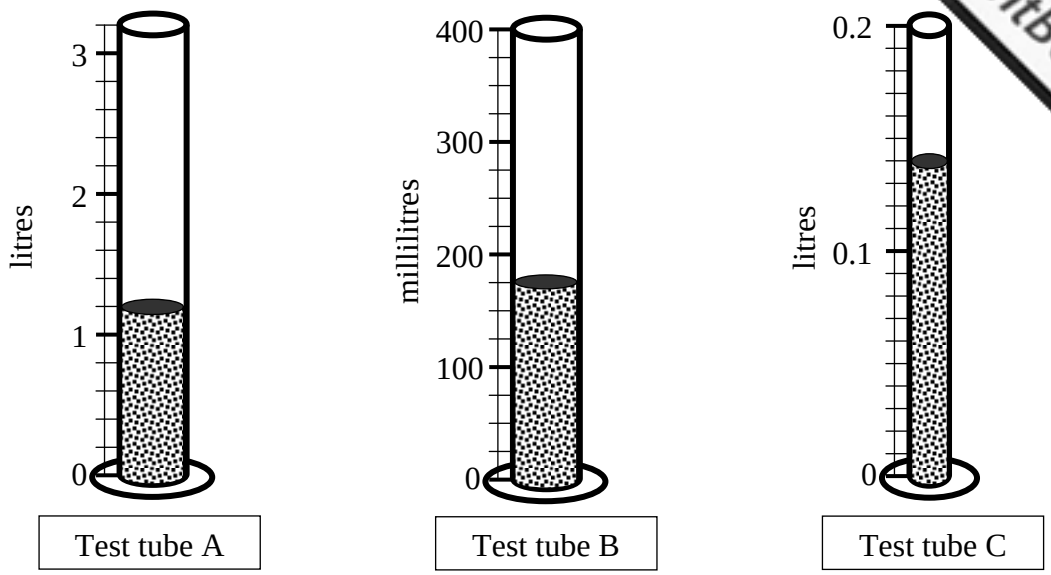
(b) What is the **range** of their ages? _____

(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*)

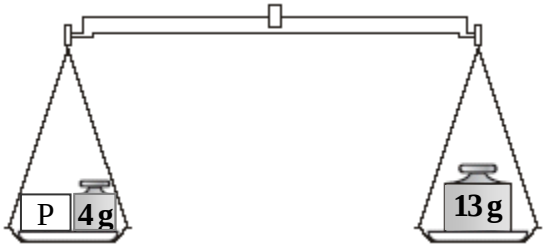
11. (a) **Simplify** (tidy up): $5x - 3y - 2x + 5y$

_____

(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.



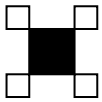
(i) Write down the **equation** for this set of scales. _____

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

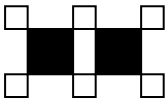
_____

(*8 marks*)

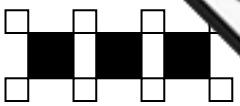
12. These patterns are made up of black and white squares.



1st pattern



2nd pattern



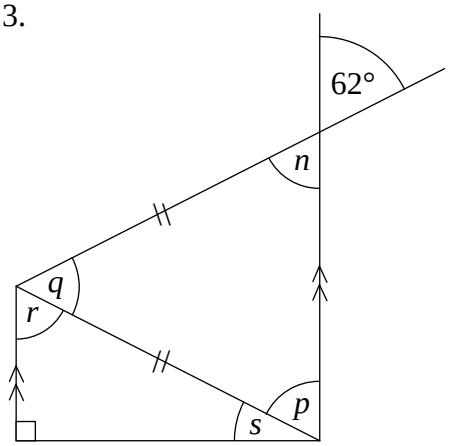
3rd pattern

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. $\frac{\square}{\square}$

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

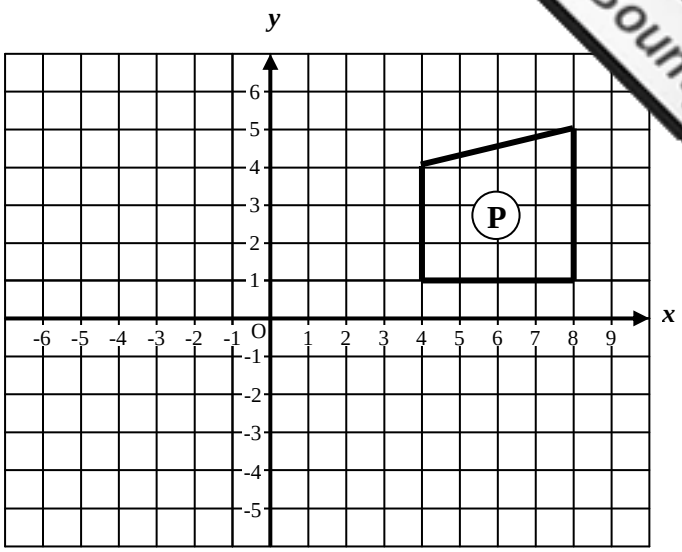
(c) a seven. $\square$

(*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.

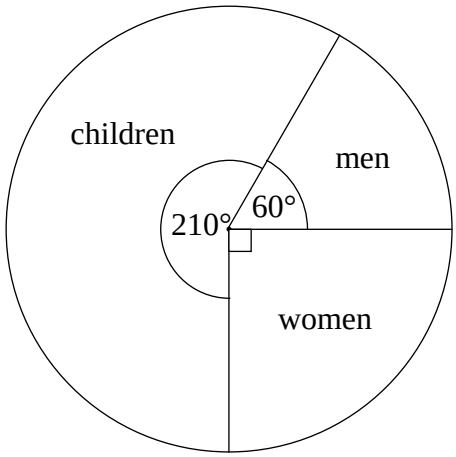
Choose: *reflection, translation, x, y*

(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:

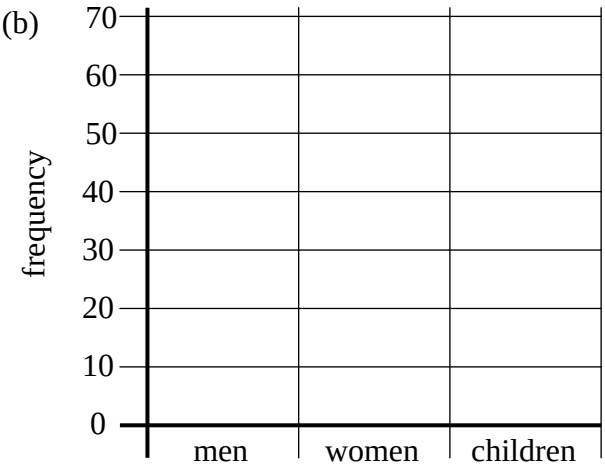
The number of

men was _____ .

women was _____ .

children was _____ .

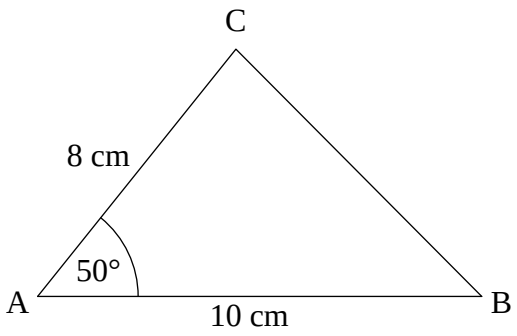
(b)



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 = _____

(*4 marks*)

END OF PAPER