SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

1

FORM 1 **MATHEMATICS SCHEME A** **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 10^7 1 million three hundred thousand

_____

(*4 marks*)

2. Mario wants to share **€527** equally among **17** people.

How much does **each** person get?

_____

(*2 marks*)

3. Change $\frac{22}{25}$ to a **decimal** number.

_____

(*2 marks*)

4. Write 1260 as the product of **prime numbers**.

_____

(*4 marks*)

5. A bag of potatoes weighs **75 kg**.

Mary carries $\frac{2}{5}$ of it, and Jane carries 44% of it.

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

_____

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

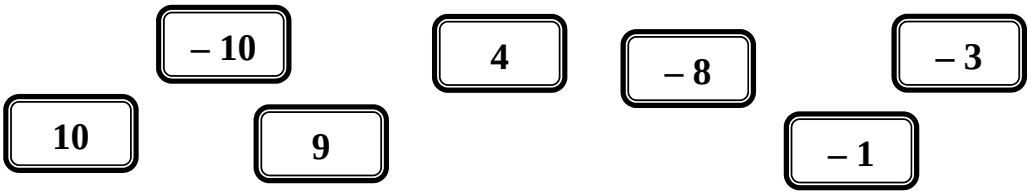
_____

(c) **Who** is carrying more weight and **how much more** is she carrying?

_____ _____

(*5 marks*)

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



Choose **two** cards so that

(a) ☐ + ☐ = **0**

(b) ☐ – ☐ = **12**

(c) ☐ × ☐ = **8**

(d) ☐ ÷ ☐ = **– 3**

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 – 4·49		
(c)	25·33 – 3·8 × 6·09		

(*4 marks*)

END OF PAPER

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

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FORM 1 **MATHEMATICS SCHEME A** **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 40 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 **15 cm** long, **15 cm** high and **10 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 **840** toy boxes.

(b) What **volume** do these boxes occupy?

_____cm^3

(c) Write this volume in $\mathbf{m^3}$.

_____ m^3

Each toy box weighs **750 g**.

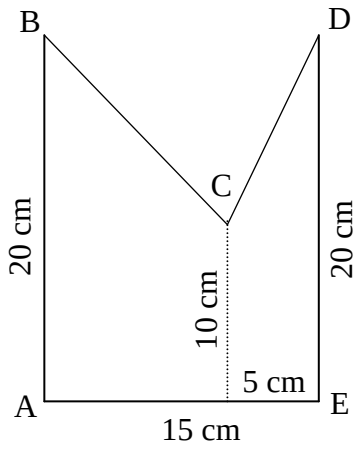
The wooden crate weighs **5 kg** when empty.

(d) 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.

_____

(*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 any two **prime** numbers. _____ _____

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

(c) list all the three **square** numbers. _____ _____ _____

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

(*4 marks*)

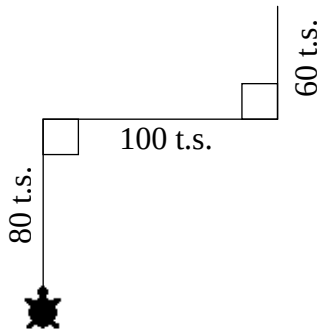
5. Write in order the **smallest** first:

0 , $-\frac{5}{6}$, $\frac{2}{3}$, $\frac{1}{2}$.

_____

(*2 marks*)

6.



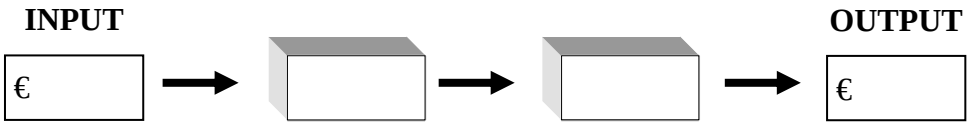
Continue writing the **LOGO** commands below to draw the shape on the left. ('t.s.' means 'turtle steps'.)

PD
FD 80
RT

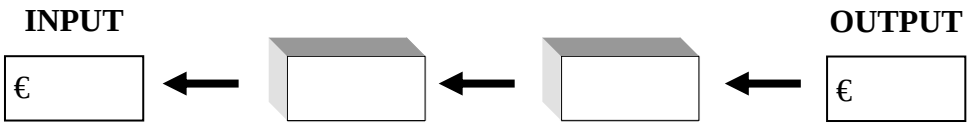
(*3 marks*)

7. (a) My sister Mary worked at a flower shop after school.
Dad promised to **double** what she earned from the flower shop.
Mum promised to give her **€5** every week.

Fill in the number machine below to show how much Mary received from her parents, last week, after earning **€15** for working at the flower shop.

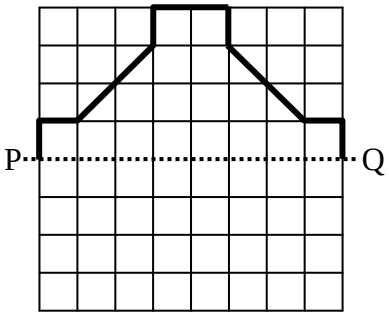


(b) Use your number machine to calculate how much money Mary earned from the flower shop this week when she earned **€45** from her parents.



(*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. **Fifteen** students go to an art exhibition. Their ages are as follows:

11 12 10 12 9 11 12 10 9 12 11 12 10 12 12

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

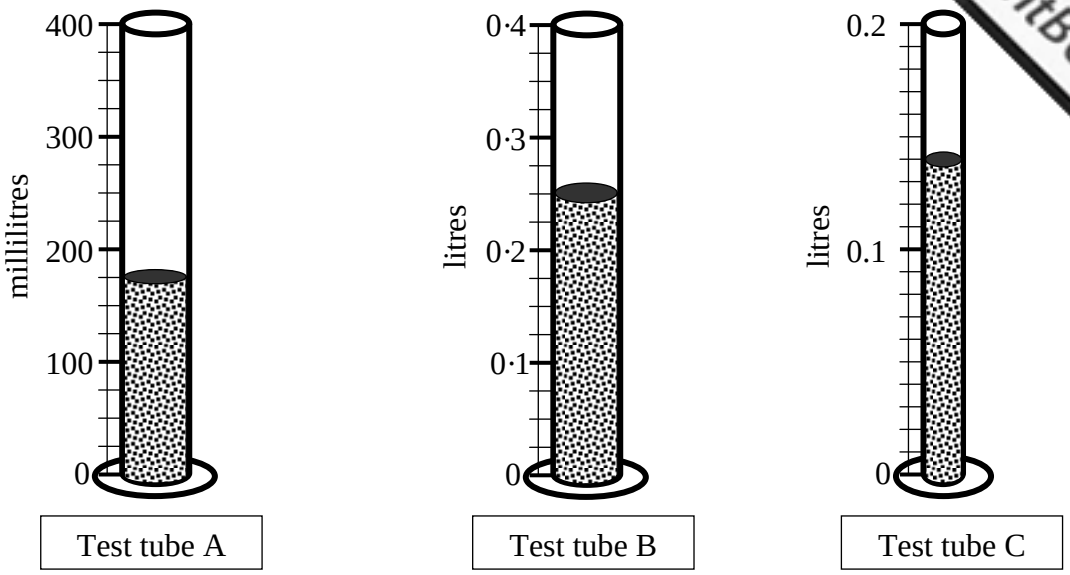
(b) What is the **range** of their ages? _____

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

_____

(*5 marks*)

10.



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

(a) Test tube A _____

(b) Test tube B _____

(c) Test tube C _____

(*3 marks*)

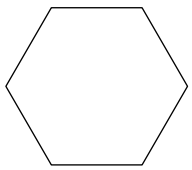
11. (a) **Simplify** (tidy up): $5x - 3y - 2x + 5y$

_____

(b) **Solve** for *x*: $4(x-2)=12$

_____

(c) A regular hexagon has **each** side $(2n+3)$ cm long.



(i) Write down an equation for the **perimeter *P*** of the hexagon. **Simplify** your equation.

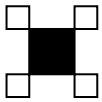
_____

(ii) What is the perimeter of the hexagon when $n = 4$?

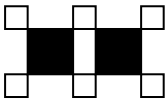
_____

(*8 marks*)

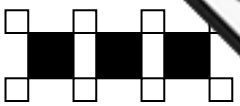
12. These patterns are made up of black and white squares.



1st pattern



2nd pattern



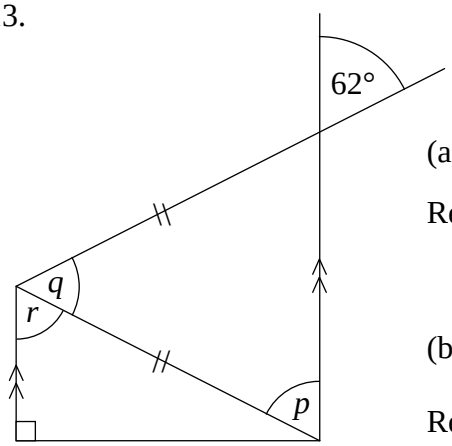
3rd pattern

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

	1st pattern	**2nd pattern**	**3rd pattern**		**5th pattern**		**pattern**
White squares	4	6	8				
Black squares	1	2	3		5		
Total of squares	5	8	11		17		23

(*4 marks*)

13.



Look carefully at the diagram.
Work out the missing angles, **giving reasons** for your answers.

(a) p = _____°

Reasons: _____

_____

(b) q = _____°

Reason: _____

(c) r = _____°

Reason: _____

(*6 marks*)

14. Jesmond throws a six-sided dice.

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

(a) an even number _____

(b) a number greater than 4 _____

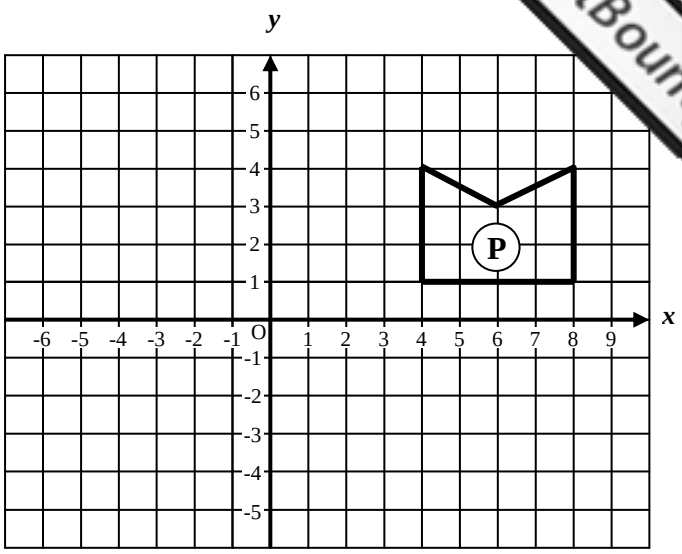
(c) a seven _____

(*3 marks*)

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

A (4, – 1) **B** (4, – 4) **C** (6, – 3)

D (8, – 4) **E** (8, – 1)



(b) Join **AB**, **BC**, **CD**, **DE** and **EA**.

(c) Complete:

The shape I have drawn is the

_____ of shape P

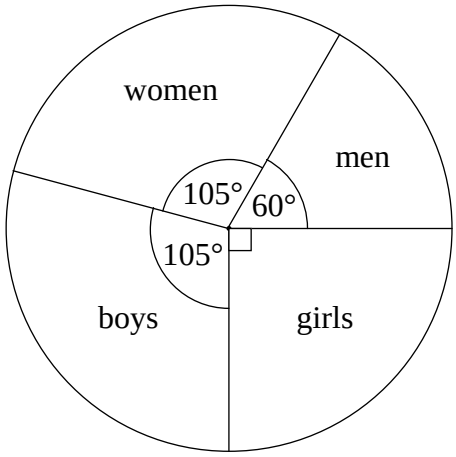
in the ____ axis.

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

(*5 marks*)

16. The pie chart represents the number of men, women, boys and girls that went to a party.

There were **120** people in all.



(a) Complete the following:

The number of

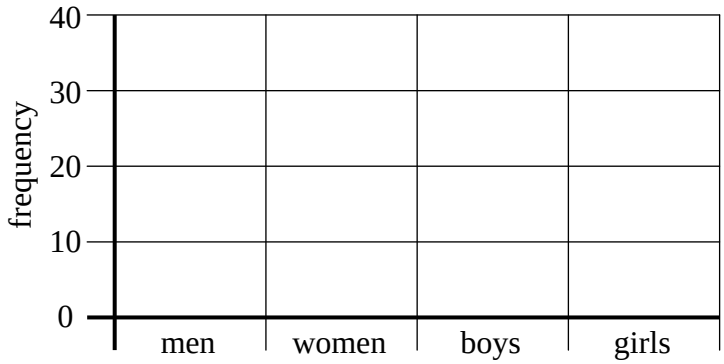
men was _____ .

women was _____ .

boys was _____ .

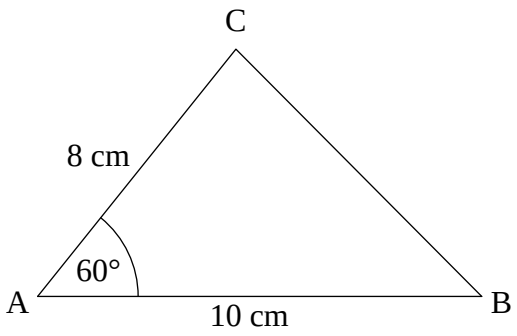
girls was _____ .

(b) Draw a bar chart to show this information.



(*5 marks*)

17. (a) Using compasses and ruler only, make an **accurate** drawing of this triangle.



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

BC = _____

(*4 marks*)

END OF PAPER