SECONDARY SCHOOL ANNUAL EXAMINATIONS 2004

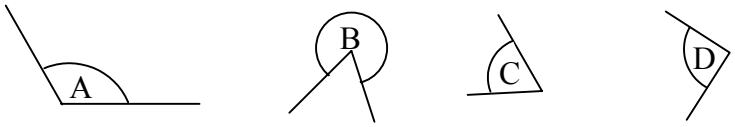
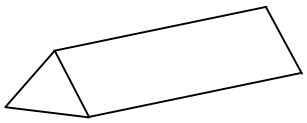
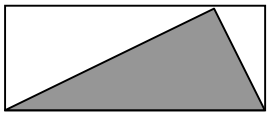
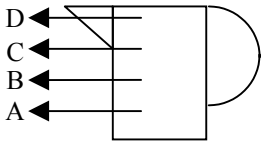
Educational Assessment Unit - Education Division

FORM 2 **MATHEMATICS (NON-CALCULATOR)** **TIME: 10 min.**

Name _____ **Class** _____

Mark

- **ANSWER ALL QUESTIONS.**
- **EACH QUESTION CARRIES 1 MARK.**
- **CALCULATORS, RULERS, PROTRACTORS AND OTHER MATHEMATICAL INSTRUMENTS ARE NOT ALLOWED.**
- **WRITE DOWN YOUR ANSWER ONLY IN THE SPACE PROVIDED.**
- **THIS PAPER CONTAINS 10 QUESTIONS.**

QUESTION	Space for working if required
1. Fill in to make correct $23 \times 16 = (23 \times 10) + (23 \times \square)$ **Ans:** _____	
2. If $a = 6$, what is the value of $3a$? **Ans:** _____	
3. Which **two** of the following numbers are greater than 1? $\frac{2}{5}, \quad \frac{4}{3}, \quad -2.5, \quad \frac{100}{100}, \quad 0.09, \quad 1\frac{1}{2}$ **Ans:** _____	
4. Fill in to complete the sequence $1, \quad 4, \quad 9, \quad 16, \quad \square, \quad 36$ **Ans:** _____	
5. Put in order of size, smallest first  **Ans:** _____	
6.  The triangular prism has _____ vertices. **Ans:** _____	
7. A bus leaves Valletta at 6:50 a.m. If it takes 18 minutes to reach Paola, at what time does it arrive there? **Ans:** _____	
8. The area of the rectangle is 24 cm^2. The area of the shaded triangle is: (a) 10 cm^2 (b) 12 cm^2 (c) 20 cm^2 (d) 24 cm^2  **Ans:** _____	
9. Find the value of $2^2 - 1$ **Ans:** _____	
10. This jug holds 1 litre of water. Which letter shows approximately when it contains 450 ml of water?  **Ans:** _____	

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2004

Educational Assessment Unit - Education Division

FORM 2 **MATHEMATICS (Main Paper)** **TIME: 1h 50 min**

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non-Calculator	**Global Mark**
Mark																		

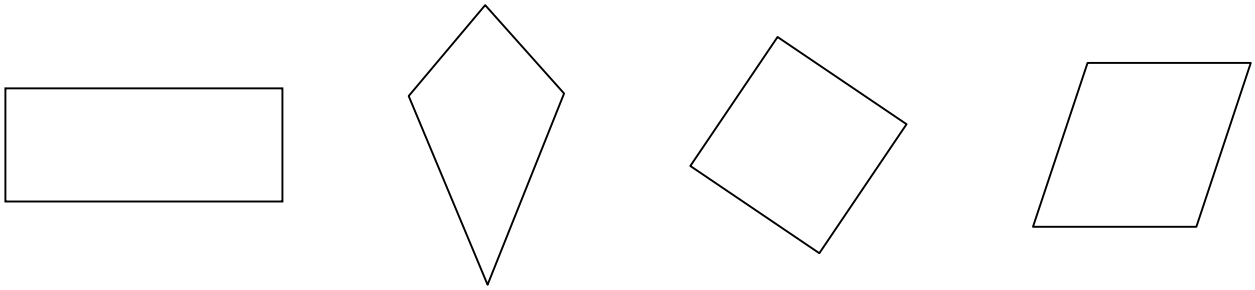
DO NOT WRITE ABOVE THIS LINE

Name _____ **Class** _____

Calculators are allowed but <u>all</u> necessary working must be shown

ANSWER ALL QUESTIONS.

1. Use the words **kite**, **rhombus**, **rectangle**, and **square** to name each shape.



_____ _____ _____ _____

(4 marks)

2. $57^2 \div 86.1$

(a) Use the calculator to work out, giving your answer correct to 1 decimal place _____

(b) Now round your answer to the **nearest** whole number _____

(4 marks)

3.

2	**3**	**4**	**5**	**6**

(a) Which of these are prime? _____

(b) i) Give all the prime factors of 12. _____

ii) Give all the prime factors of 30. _____

iii) Write the common prime factors of 12 and 30. _____

(4 marks)

4. a) Work out: $\sqrt{29.16}$ _____

b) Express $\frac{3}{5}$ of 1 litre (in ml) _____

c) Write 4% as a decimal _____

d) Write 4% as a fraction in its lowest terms $\frac{\square}{\square}$

(4 marks)

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5. Continue

a) 10, 7, 4, _____ , _____

b) 432.1, 43.21, 4.321, _____ , _____

c) 2.30 h, 2.15 h, _____ , _____ , 1.30 h

d) $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, _____ , _____ , $1\frac{1}{2}$

(4 marks)

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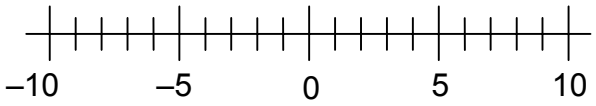
6 a)

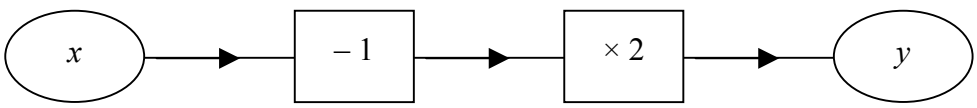


Use the number line to find the value of:

(i) – 3 – 5 =_____

(ii) – 4 + 6 =_____

b)



Use the function machine to complete this table:

x	– 2	– 1	0	1	2	3
y		– 4	– 2	0		4

(6 marks)

7 This is a list of the number of letters per word in an advertisement on a newspaper.

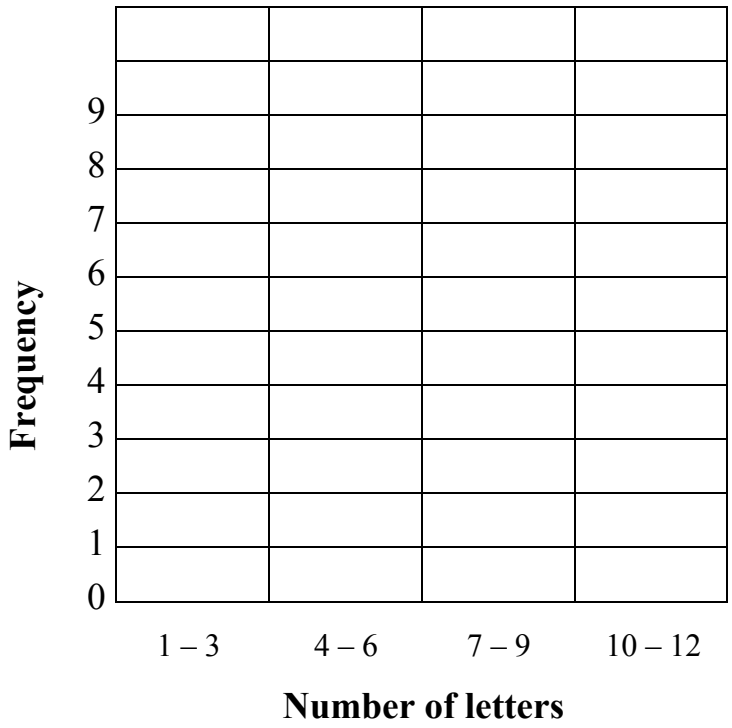
5	6	3	8	2	11	7	2	6	8
8	2	5	3	5	6	9	2	1	10

a) How many words were there altogether?

b) Complete this frequency table.

Number of letters	Frequency
1 – 3	
4 – 6	
7 – 9	
10 – 12	
Total	

c) Complete the bar chart to show the information in the frequency table.



d) How many words had 6 letters or less?

(8 marks)

8 a)

	A	B	C	D
1	34			
2	20			
3	22			
4	60			
5	?			
6	Mean is	?		
7				

i) What formula do I write in cell A5 to find the sum of the numbers shown in column A?

= _____

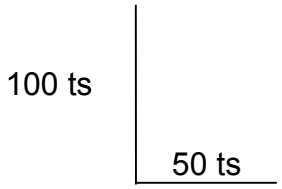
ii) What formula do I write in cell B6 to get the **mean** of the numbers from cell A1 to cell A4?

=B6/6 **=A5/4** **=A5/5**

iii) If I now press ***ENTER***, what number do I get in cell B6?

_____

b) Write the commands, using **LOGO**, to draw the capital letter **L**.
Start with the command **PD**. (ts = turtle steps)



(8 marks)

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9 a) Simone has a box of sweets of different shapes and wrapped in different coloured papers. She takes a sweet at random.

Work out the probability that she chooses:
(The first one has been done for you.)

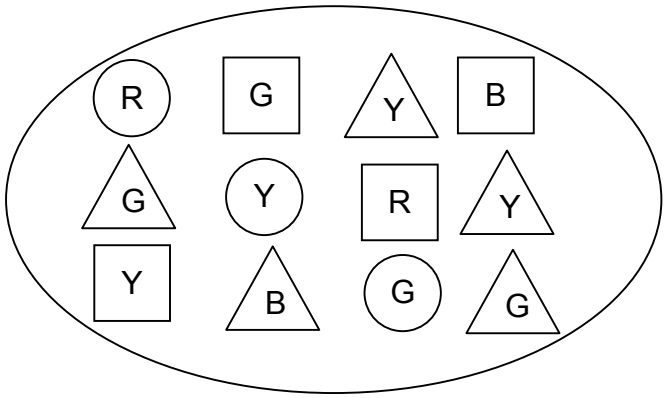
i) a round sweet $\frac{3}{12} = \frac{1}{4}$

ii) a square sweet _____

iii) a sweet that is not square _____

iv) a blue sweet _____

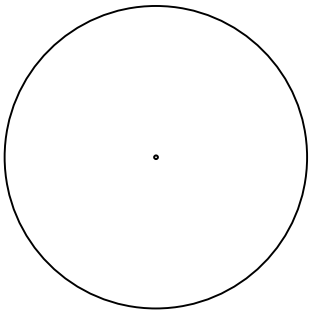
v) a red triangular sweet _____



B = Blue G = Green Y = Yellow R = Red

b) This is the scale drawing of a swimming pool in a hotel.

Scale 1 cm ≡ 3 metres



i) What is the length of the radius, in centimetres, in this scale drawing?

_____

ii) What is the radius of the swimming pool, in metres?

_____

iii) $C = 2\pi r$. What is the circumference of the pool, in metres, correct to the nearest metre?

_____ (8 marks)

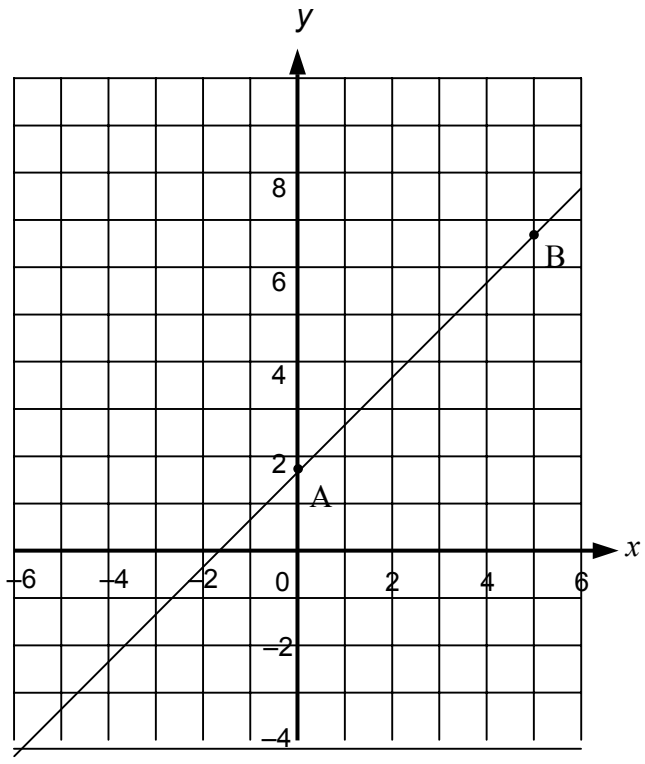
---

10 a)Write the co-ordinates of point A and point B.

A = (,) B = (,)

b) Mark and label points C and D on the straight line.

C = (–4 , –2) D = (1 , 3)



c) Use this straight-line graph to find:

(i) the value of y when $x = -3$

(–3 , ____)

(ii) the value of x when $y = 6$

(_____ , 6)

d) Points E and F are two more points on the same line.
Fill in:

E = (12 , ____) F = (_____ , –10)

(8 marks)

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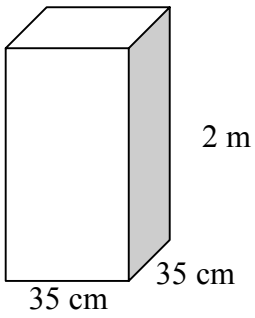
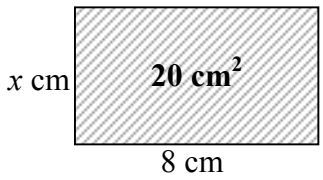
11 a) What is the volume of the cuboid?



b) The area of the rectangle is 20 cm^2. What is the value of x?



c) James runs only 85% of a 1500 metre race. How far does he run?

(6 marks)

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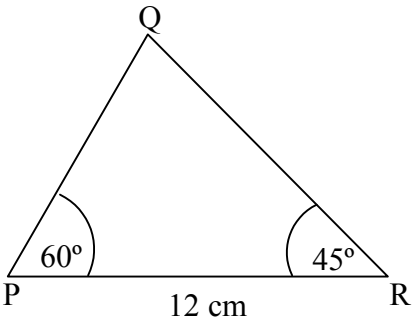
12 a) Draw accurately ΔPQR.



b) Measure PQ PQ = _____ cm

c) Measure QR QR = _____ cm

d) Measure angle Q Angle Q = _____ º

(6 marks)

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13 Look at the TV Guide on the right to answer the questions.

a) How long do cartoons last?

TV GUIDE	
8.00 p.m.	News
8.35 p.m.	Cartoons
9.05 p.m.	Debate
10.15 p.m.	Late Night Show
1.00 a.m.	Close

b) Using the 24 hour clock, write

(i) starting time of debate

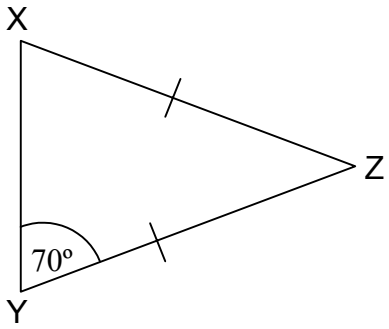
			:				

(ii) finishing time of debate

			:				

c) Pamela arrives home at fifteen minutes past midnight. How many minutes are left before the Close of programmes?

14 a)



(6 marks)

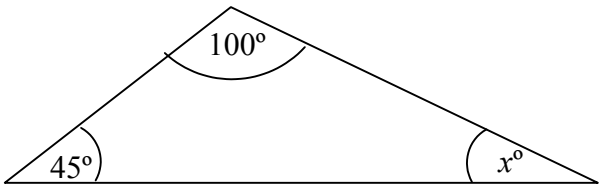
(i) Choose the correct answer from the brackets:
ΔXYZ is _____ (isosceles, scalene, equilateral).

(ii) Draw the line of symmetry of ΔXYZ.

(iii) Angle Y = 70º. Which other angle is also 70º ?

b) (i) Choose the correct answer from the brackets:
The sum of the angles of a triangle is _____ (100º, 180º, 200º).

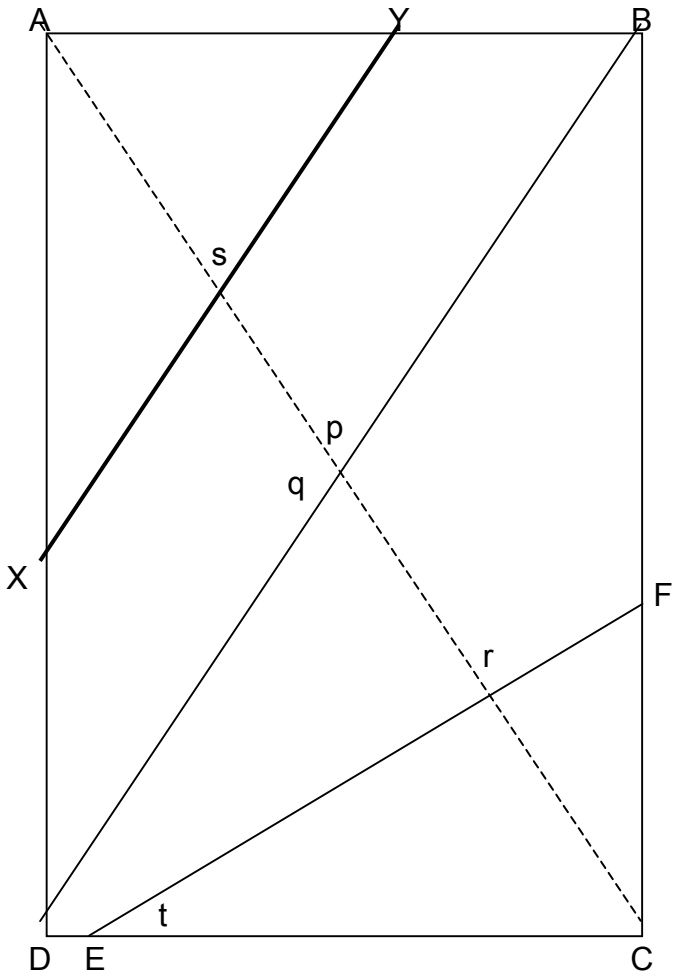
(ii) What is the value of *x* in this triangle?



c) (i) Choose the correct answer from the brackets:
The sum of the angles of a quadrilateral is _____ (360º, 200º, 180º).

(ii) Find the value of y.

15a)



(i) Which line is ***parallel*** to line XY?

(AC, BD, EF, EC)

(ii) Which angle is ***equal*** to angle s?

(p, q, r, t)

(iii) These two ***equal*** angles are called:

(corresponding, alternate, interior)

b) $3x + 2$ $3x + 1 = 16$ $\frac{x}{6}$ $x + 4 + y$

(i) Which of these is an equation?

(ii) Find the value of x in that equation.

(6 marks)

END OF PAPER