JUNIOR LYCEUM ANNUAL EXAMINATIONS - 2003
Educational Assessment Unit - Education Division

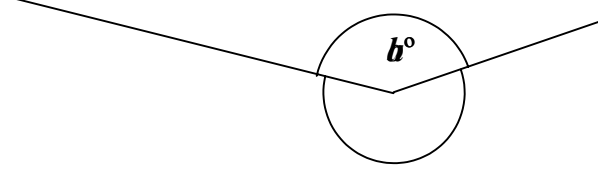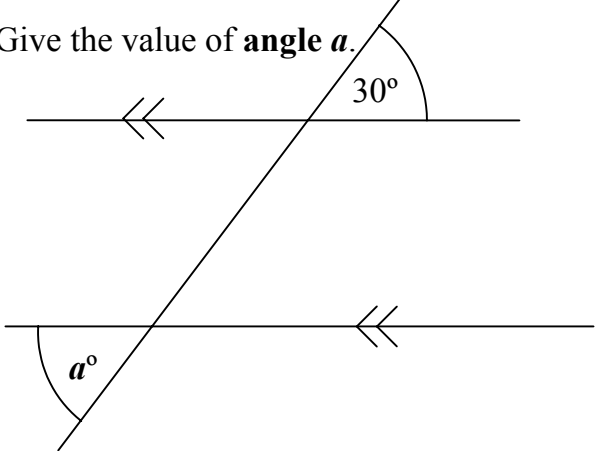**FORM 1** **MATHEMATICS (MENTAL)** **TIME: 10 min.**

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.**

DO NOT WRITE IN THIS SPACE

	QUESTION	SPACE FOR WORKING IF REQUIRED
1.	What is 50% of Lm32.16? **Ans:** Lm _____	
2.	Write down the **mean** of 297, 295, 305, 303, 300 **Ans:**	
3.	Evaluate: $1\frac{1}{4} + 2\frac{1}{2} + 3\frac{1}{4}$ **Ans:**	
4.	2cm 4cm 1cm 2cm Underline the **correct** statement: (A) The square and the rectangle have equal areas. (B) The square and the rectangle have equal perimeters. (C) The square has a bigger perimeter than the rectangle.	
5.	Simplify: **5a – 12a – a + 8a** **Ans:**	

	QUESTION	SPACE FOR WORKING IF REQUIRED
6.	Underline **the correct statement**: (A) $a° = b°$ (B) $a° + b° = 180°$ (C) $a° + b° = 360°$ (D) $a° > b°$	
7.	Evaluate: $8 + 0.8 + 0.008 + 0.08$ _____ **Ans:**	
8.	Give the value of **angle a**. **Ans:** _____	
9.	John thinks of a number. He subtracts 5 from it and then adds10. Finally he subtracts 5 again. The result is 99. What is the **original number**? **Ans:** _____	

	QUESTION	SPACE FOR WORKING IF REQUIRED
10.	Draw the diagram given by the following LOGO commands **PD** **RT 30** **FD 100** **RT 120** **FD 100**	

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

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

DO NOT WRITE ABOVE THIS LINE

Name _____   Class _____

CALCULATORS ARE NOT ALLOWED

ANSWER ALL QUESTIONS.

1. **897.643**

    (a)   Write the number above to the nearest **100**.   _____

    (b)   Write the number above to the nearest **whole number**.   _____

    (c)   Write the number above correct to **1 decimal place**.   _____

    (d)   Write the number above correct to **2 decimal places**.   _____

    _____ (4 marks)

2.   A plane left Malta on Sunday at **22:45**. It arrived in Gatwick the day after at **01:25**.

    (a)   How long did it take to arrive?

    _____h_____min

    It stayed in Gatwick airport for **6h 35min** before leaving for Miami.

    (b)   At what time did it leave?

    _____:_____

    _____ (4 marks)

3. The temperature in Moscow yesterday was **– 8ºC**. Today it is **– 3ºC**.

(a) Is today colder or warmer than yesterday?   _____

(b) By how much did the temperature change?   _____ºC
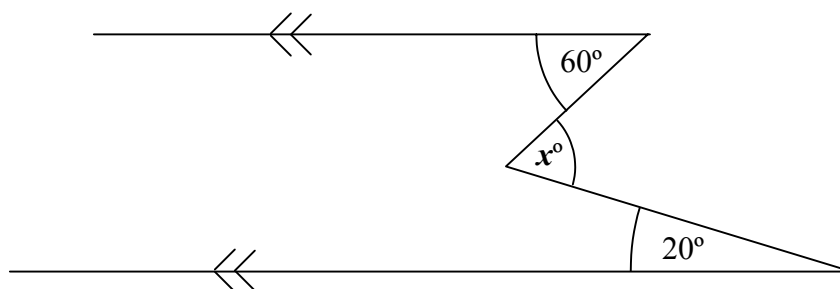
The temperature in Malta today is **26ºC**.

(c) What is the difference in temperature between Malta and Moscow today?
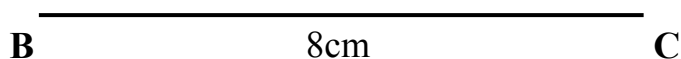
_____ºC

_____ (4 marks)

4.

Work out the value of angle **x**, **showing clearly** how you arrived at your answer.

_____º

_____ (4 marks)

5. (a) Using your compasses, construct a triangle **ABC** in which **BA = AC = 9cm**.

   (b) Draw any **line of symmetry** that you see in this diagram

   (c) Measure and write down the size of **angle B**.

B   8cm   **C**

_____ (4 marks)

6. In a class of 40 students, 30% have a cat as a pet, 40% have a dog as a pet
   and 2 students have a bird as a pet. The rest have no pets.

   (a) Find how many students have no pets.

   _____ students

   (b) Express the number of students who have no pets as a percentage of the whole class.

   _____ %

_____ (6 marks)

7. Frida read a book containing 90 pages in 3 hours.

(a)   If she always read **at the same rate**, how long did she take to read 1 page?

_____min

(b)   After spending $2\frac{1}{2}$ hours reading the book, how many pages did she **still** have to read?

_____pages

_____ (6 marks)

8.

input **x 5** [ ] **+ 3** output

(a)   The input is 1 in the above function machine. What would be the output?

Answer_____

(b)   The input is now **–2**. What would be the output?

Answer_____

(c)   What input will give **23** as output?

Answer_____
_____ (6 marks)

9.   From the set of numbers   **97, 98, 99, 100, 101, 102**   write down:

(a)   the **square** number   _____

(b)   the **factor** of 202   _____

(c)   the **smallest even** number   _____

(d)   the **LCM** of 6 and 17   _____

(e)   the **multiple** of 11   _____

(f)   the **smaller prime** number   _____
_____ (6 marks)

10.   John spent $\frac{1}{2}$ **of his weekly pocket money** on food.

$\frac{1}{3}$ of the money he spent on food was spent on chocolates.

(a) What fraction of his weekly pocket money did he spend on chocolates?

Answer_____

John also spent $\frac{2}{5}$ **of his pocket money** on stickers. He saved the remainder.

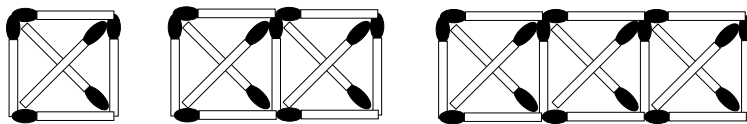(b) What fraction of his pocket money did he spend altogether?

Answer_____

(c) If John was given Lm3 pocket money, how much did he save?

Answer_____

_____ (6 marks)

11. The following are patterns made up of matchsticks. Draw the **next pattern** in this sequence:

    1st   2nd   3rd   4th

The first pattern has 6 matchsticks; the second has 11 matchsticks and so on.

Complete the following table:

Pattern	1st	2nd	3rd	4th	...	8th	...	□
Number of matchsticks	6	11	□	□	...	□	...	56

_____ (8 marks)

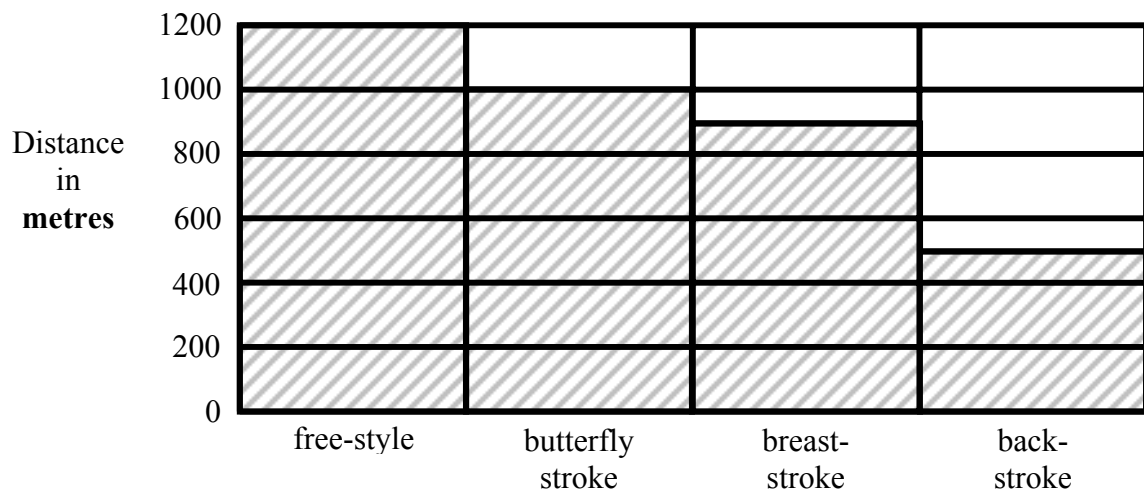12. (a) Solve: (i) $7x = 5x + 8$

(ii) $5(x-2)=15$

(b)   If a = **-2** and b = **5**, find the value of $a^2 + 2b$

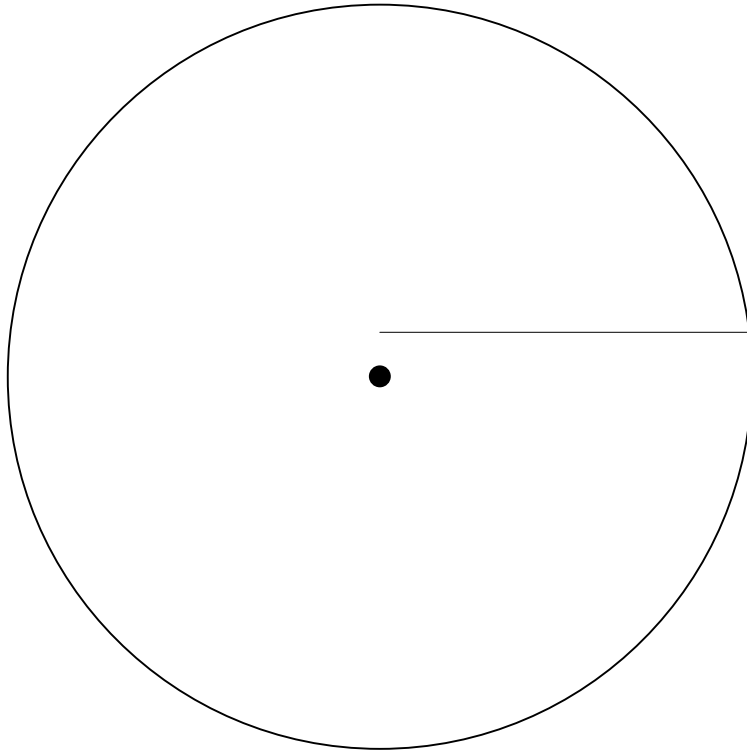**Answer**_____

_____ (8 marks)

13.   Janet's swimming programme, for a day, is shown in the following bar chart:
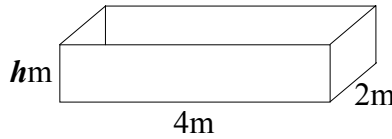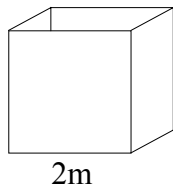

Using the bar chart above, complete the following table:

	free-style	butterfly stroke	breast-stroke	back-stroke	Total
Distance in metres	**1200**				
Angle at centre					**360°**

Now represent this information in the pie chart on the **next page**:

(8 marks)

14. Two water tanks are in the shape of a cube and a cuboid. When full, they contain **equal** volumes of water.

2m

*h*m   2m

4m

(a) Work out the volume of the cube in **m³**.

Answer _____ **m³**

(b) Determine the height *h* of the cuboid.

Answer _____ **m**

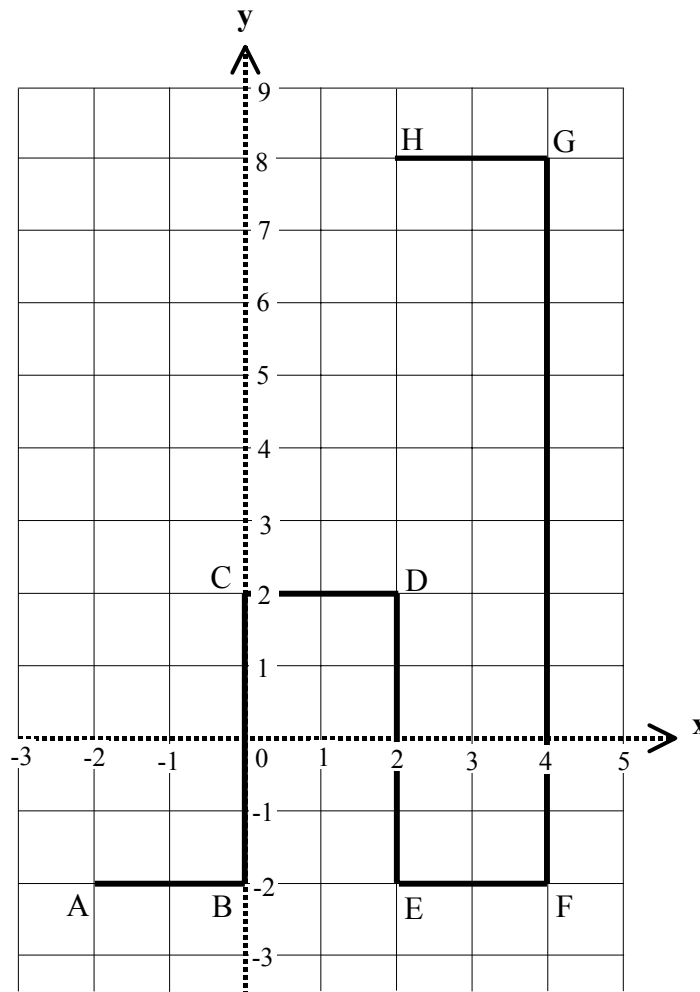(c) Work out the volume of the cube in **cm³**.

Answer _____ **cm³**

(d) What is the capacity of the cuboid in **litres**?

Answer _____ **litres**

(8 marks)

15. Each square on the grid below is of side 1cm.

(a) Plot the following points: **I (2, 4)   J (0, 4)**

(b) Join **HI** and **IJ**.

You will notice that if you add another **two** points, **K** and **L**, you will get a letter of the alphabet.

(c) Find and write the coordinates of **K** and **L**.

K (_____ , _____)   L (_____ , _____)

(d) Join **JK**, **KL** and **LA**.

(e) Find the area of the letter in cm².

Answer_____cm²

(8 marks)