

**JUNIOR LYCEUM ENTRANCE EXAMINATION INTO FORM 1
2003**

MATHEMATICS

ANSWER ALL QUESTIONS

(Questions 1 to 10 . . . 4 marks each; questions 11 to 20 . . . 6 marks each.)

1. **Work out:**

a)
$$\begin{array}{r} 4752 \\ + 1999 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 10.00 \\ - 3.85 \\ \hline \end{array}$$

c) $80 \times 15 =$

d) $3600 \div$ $= 36$

2. Write **one answer only** in each box:

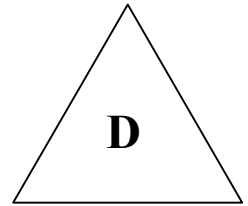
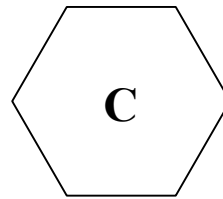
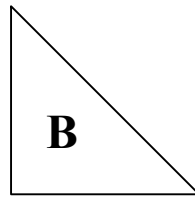
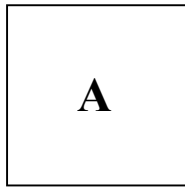
a) A **multiple of 7 between 40 and 60**

b) A **factor of 261**

c) A **prime number greater than 50**

d) A **square number exactly divisible by 8.**

3. Look at these four shapes.



a) Which **shape** does **not** have all sides equal? _____

b) Which **shape** has **obtuse angles**? _____

c) What is the **sum of the angles** of shape **B**? _____

d) Which **shape** has **only three lines of symmetry**? _____

4. a) Arrange these lengths in order of size, **smallest first**.

0.04 m

39 cm

380 mm

b) Arrange these masses in order of size, **biggest first**.

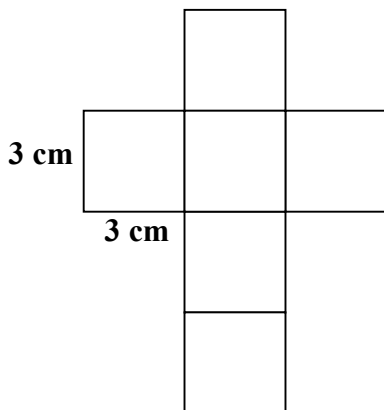
25 g

0.02 kg

0.25 kg

5.

This is the **net** of a **closed cube** of **side 3 cm**.



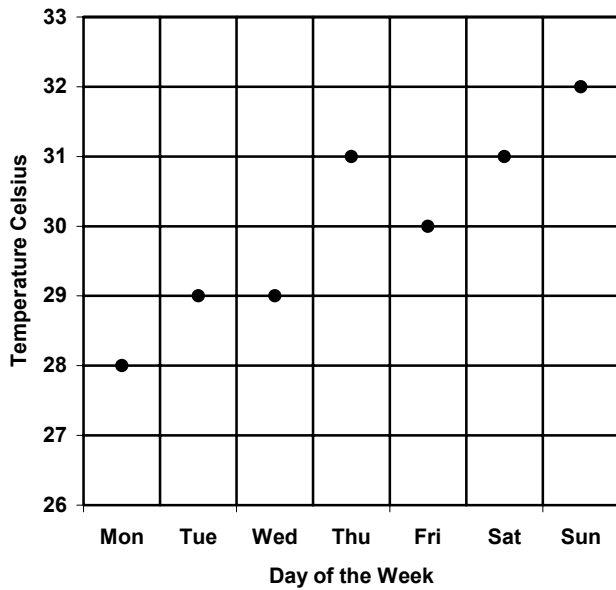
a) Work out the **total area of the net**.

_____ **cm²**

b) The net is folded to form a **cube**.
Work out the **volume** of the cube.

_____ **cm³**

6. Look at this graph. It shows the **highest temperatures** reached last week.
Work out the **average temperature**.



_____ degrees Celsius

7. These are the opening times of a swimming pool.

<p>Saturday and Sunday 9:00 a.m. to 6:00 p.m.</p> <p>Monday to Friday 10:00 a.m. to 6:00 p.m.</p>

- a) How many **hours** is the pool open on **Sunday**?

_____ hours

- b) On **Thursday** Maria arrives at the swimming pool at **3:50 p.m.**

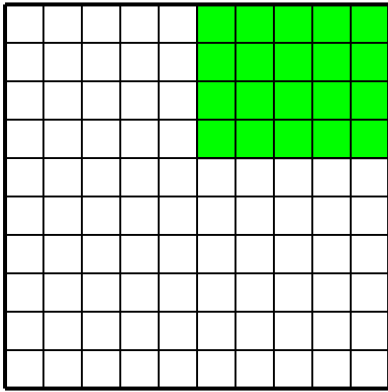
She arrives _____ **hours** _____ **minutes** before the pool closes.

8. In a circus **each row** has **24 seats**.
17 rows are still empty.

523 people are in the queue outside.
How many people will **not** get a seat?

_____ people

9. This is a square divided into **100 equal parts**. Some parts are shaded.



a) What **fraction**, in its **lowest terms**, is **shaded**? _____

b) What **percentage** is **shaded**? _____ %

c) What **percentage** is **not shaded**? _____ %

d) What **fraction**, in its **lowest terms**, is **not shaded**? _____

10. Look at these four number cards.



a) Which **two** number cards give a **total of 4**?

b) Which **two** number cards give a **difference of $1\frac{1}{2}$** ?

11. Maria's class is having a party.
She has **Lm5** to spend on Cola cans.
Each Cola can costs **23c**.



- a) Work out the **greatest number** of Cola cans she can buy for **Lm5**.

_____ cans

- b) What **change** is left?

_____ cents

12. There are **30 pupils** in a Year 6 class.
40% are **girls**.

- a) What **percentage** are **boys**?

_____ %

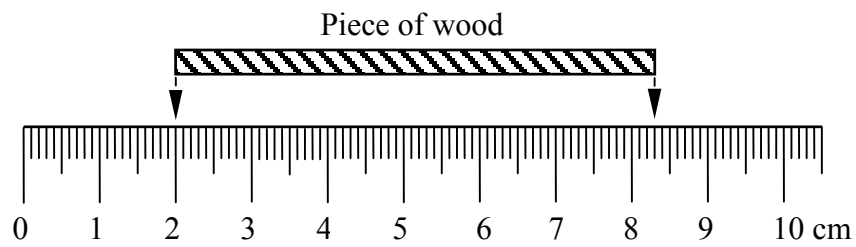
- b) How many are **boys** and how many are **girls**?

_____ boys; _____ girls

- c) **75%** of the **girls** like netball.
How many **girls** like netball?

_____ girls

13. a) Look at this picture.



Write down **the length of the piece of wood** in

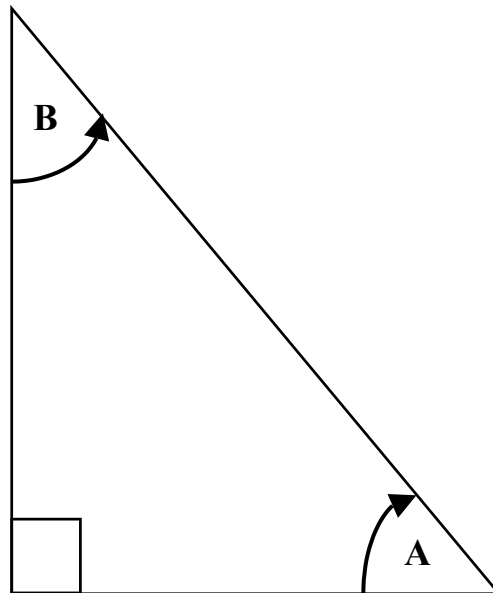
i) **centimetres**

ii) **millimetres**

_____ **cm**

_____ **mm**

b) Look at **angle A** in this triangle.



i) Underline the correct answer:

Angle A is **acute** because it is
less than 90°, greater than 90°, less than 180°, greater than 180°.

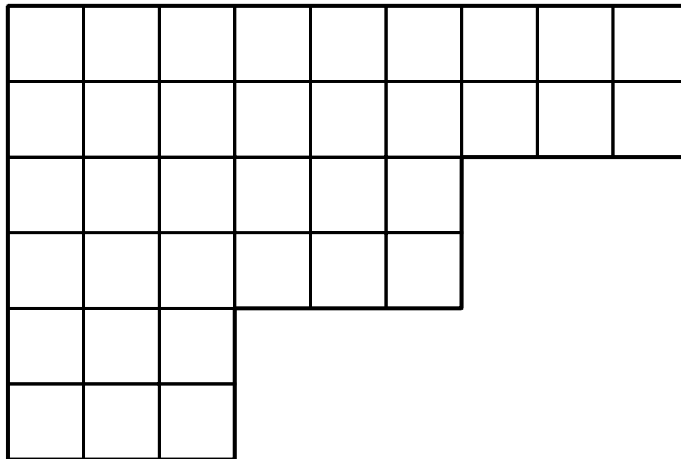
ii) Use a protractor to **measure angle A**.

o

iii) **Work out** the size of **angle B**.

o

14. a) Nicky has **36 small squares of side 1 cm**. He makes this shape.



Work out

i) the **perimeter** of this shape _____ **cm**

ii) the **area** of this shape. _____ **cm²**

b) Nicky makes a **SQUARE**. He uses **all** the 36 small squares.

Work out the **perimeter** of the **SQUARE** he makes.

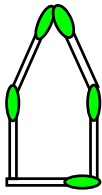
_____ **cm**

c) Nicky changes the **SQUARE** into a **RECTANGLE**.
The **length** of the **rectangle** is **9 cm**.

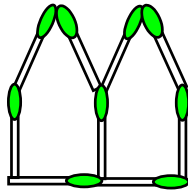
Work out the **breadth** of this **rectangle**.

_____ **cm**

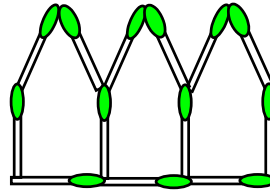
15. Nicky and Maria make patterns with matchsticks.
The picture shows the first three patterns they make.



Pattern 1



Pattern 2



Pattern 3

a) Complete the following table:

Pattern Number	1	2	3	4	5
Number of Matchsticks	5	9	13		

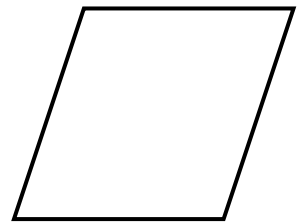
b) How many **matchsticks** make Pattern 9?

_____ matchsticks

c) Which **Pattern Number** can they make from **45 matchsticks**?

Pattern Number _____

16. a) Look at this shape. **Why** is it **not a square**?



b) A circle has a **diameter** of **11.4 cm**.

Work out its **radius**.

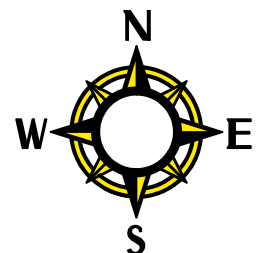
_____ cm

c) Maria is facing **North-East**.

She **turns clockwise** to face **South-West**.

She turns through an angle of _____ degrees

or _____ right angles.



17. A group of 25 children go for a meal at **Joe's Restaurant**.
These are the prices at the restaurant.

Joe's Restaurant	
Pizza	Lm2.50
Pasta	Lm2.75
Soft Drink	Lm0.45
Ice Cream	Lm0.60

This table shows their choices.

	Pizza	Pasta	Soft Drink	Ice Cream
Number of Children	15	10	25	20

Work out the **total cost** of the meal for the **whole group**.

Total Cost: _____

18. Five children drank **9.45 litres** of water last Sunday.

This is how much water **four** of the children drank.

Mario 1.75 l

Tessie 930 ml

Walter 1840 ml

Tanya 2 l 90 ml

Frida _____

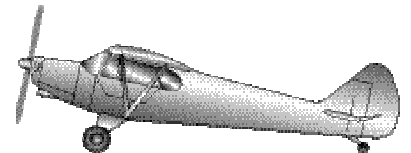
a) How much water, in **litres**, did **Frida** drink?

_____ litres

b) What is the **average** amount of water, in **litres**, drank by each child?

_____ litres

19. This aeroplane travels at a **speed** of **140 km per hour**.



a) What **distance** will it travel in

i) **half an hour**;

_____ km

ii) **1 ½ hours**?

_____ km

b) This aeroplane **leaves** an airport at **8:35 a.m.** to a country **210 km** away.

At what **time** is it expected to **arrive** in this country?

_____ a.m.

20. Maria has **between 155 and 165** used mobile phone-cards.

When she puts them in **lots of 5**, she has **3 left**.

When she puts them in **lots of 9**, she has **1 left**.

a) How many **phone-cards** does she have?

_____ **phone-cards**

b) Explain **why** Maria **cannot pack all** her phone cards **in equal lots**.

END OF PAPER