

Junior Lyceum Entrance Examination Into Form 1 2004

MATHEMATICS

ANSWER ALL QUESTIONS

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

1. a) Work out: **953**

+217

b) Write down the sum of :

3×100

2×10

5×1

c) Write in figures: **one hundred and twenty thousand**

d) Multiply **89** by **23**.

2. a) Shade $\frac{2}{3}$ of the diagram:

b) Complete:

$$\frac{2}{3} = \frac{\quad}{9}$$

c) Work out: $3\frac{2}{3} + \frac{1}{9}$

d) In a class there are **27 children**.
Two thirds of the children are **boys**.
Work out the **number of boys** in the class.

_____ boys

3. a) Complete the pattern: 1×2 , 2×3 , 3×4 , 4×5 , $___ \times ___$

b) i) Draw **pattern 4**.



ii) Look carefully at each pattern and complete the table.

Pattern number	1	2	3	4
Number of dots	1	3	6	

iii) Write down the number of dots needed to draw **pattern 6**.

4. a) Write $\frac{7}{1000}$ as a decimal.

b) I have one Lm5 note, one 50c coin and three 2c coins.
How much money do I have in all?

Lm _____

c) Add **3 m 55 cm** to **66 cm**.

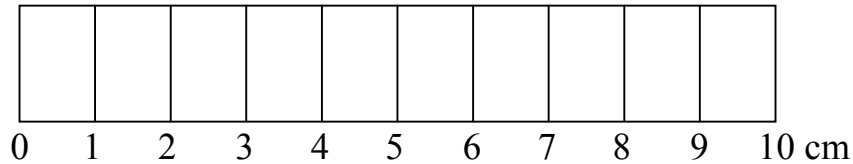
d) A school bag weighs 2.45 kg.
What is the weight of **5 bags**?

_____ m _____ cm

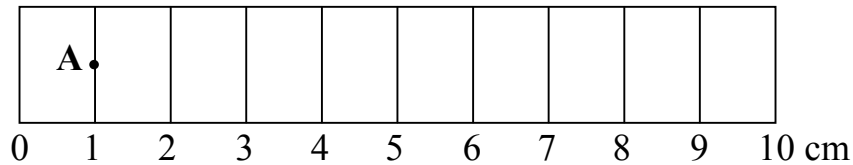


_____ kg

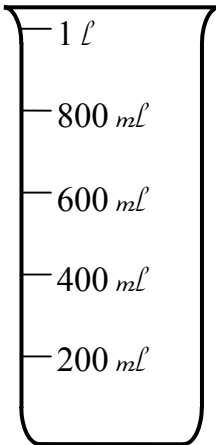
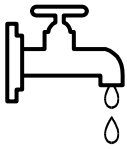
5. A strip of paper is 10 cm long. It is marked in **cm**.



- a) What **fraction** of the strip is the length from 0 to 7 cm? _____
- b) Write your fraction as a **percentage**. _____ %
- c) How long is 25% of the strip? _____ cm
- d) **Use your pencil and ruler.**
On the diagram start at point **A**.
Draw a line 80% of the length of the strip.



6.



Water drips from a tap into an empty container.
It takes 2 hours to fill 200 *mL* of water.

- a) How long does it take to fill **two fifths** of one litre?

_____ hours

- b) How long does it take to fill **half a litre**?

_____ hours

- c) How many **millilitres** of water are filled in $2\frac{1}{2}$ hours?

_____ *mL*

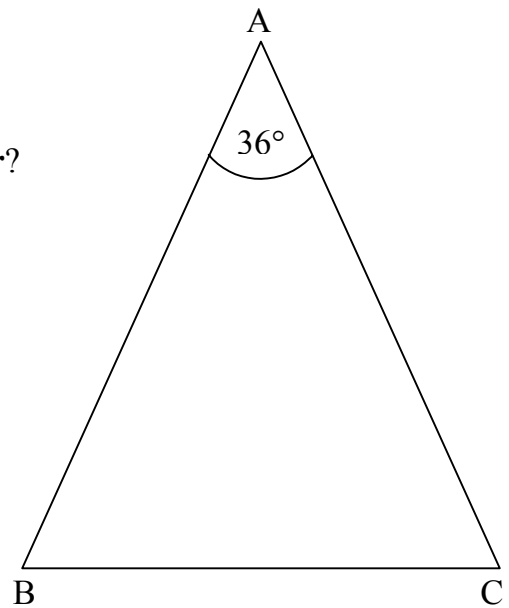
7. The diagram shows an **isosceles triangle**.
Angle A is 36° .

a) How many degrees are angle B and angle C **together**?

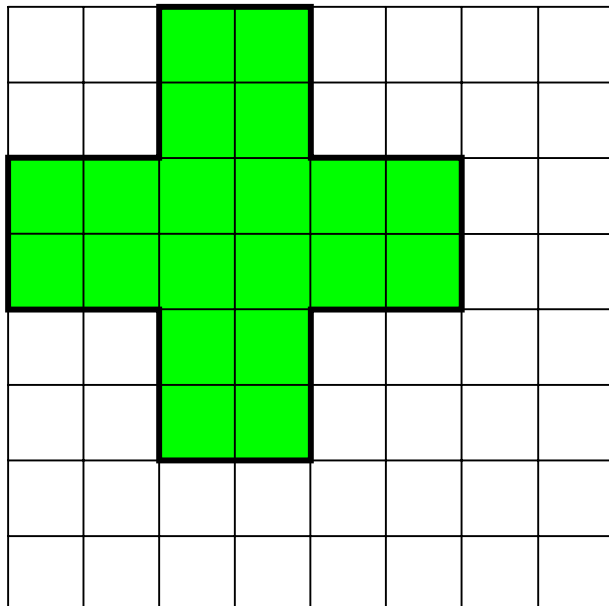
_____ °

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

_____ °



8. John wants to make the net of a solid. He shades squares on a grid.
Each square on this grid is of side 1 cm.



a) Work out the **perimeter** of the shaded part.

_____ cm

b) Work out the **area** of the shaded part.

_____ cm²

John tries to form the solid.
 He finds that **part of the net is missing**.

c) What is the name of the **solid** John wants to make? _____

d) How many **more faces** are needed to complete the net? _____

9. The clock shows the time Sandra **wakes up** for school.



a) Write down the time.

b) School **starts** at 08:45 and **finishes** $5\frac{1}{4}$ hours later.

i) How long is it from the time Sandra wakes up till school starts?

_____ hours _____ minutes

ii) At what time does school finish?

10.



a) The distance from Qormi to Cirkewwa is 20 km.
Write down this distance in **metres**.

_____ m

b) George takes thirty minutes to walk 2 km.
What is his speed in km/h?

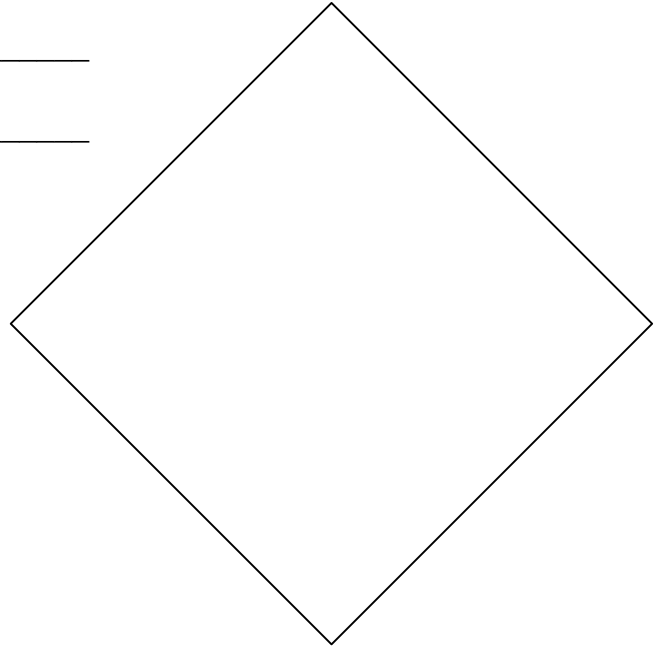
_____ km/h

c) George walks from Qormi to Cirkewwa.
Work out the time he takes to walk this distance.

_____ hours

11. a) i) Look at the shape.
Write down **two** reasons why it is a **SQUARE**.

- ii) The **length** of each side is _____ cm
- b) Use your **ruler** to draw the **vertical** and the **horizontal** lines of symmetry.
- c) Use your **compasses** to draw a circle **inside** the square.
The circle must **touch** all the four sides of the square.
- d) Write down the **length** of the **radius** of your circle.



_____ cm

12. a) **Underline** the correct answer.

i) The capacity of a milk carton is:
10 ml 1 l 1 ml 500 l

ii) The area of the **front cover** of a copybook is about:
3400 cm² 3.4 cm² 340 cm² 34 cm²



- b) An **empty** crate weighs 1.5 kg.
The crate **full** of apples weighs 13.5 kg.
There are 60 apples in the crate.



Crate of apples

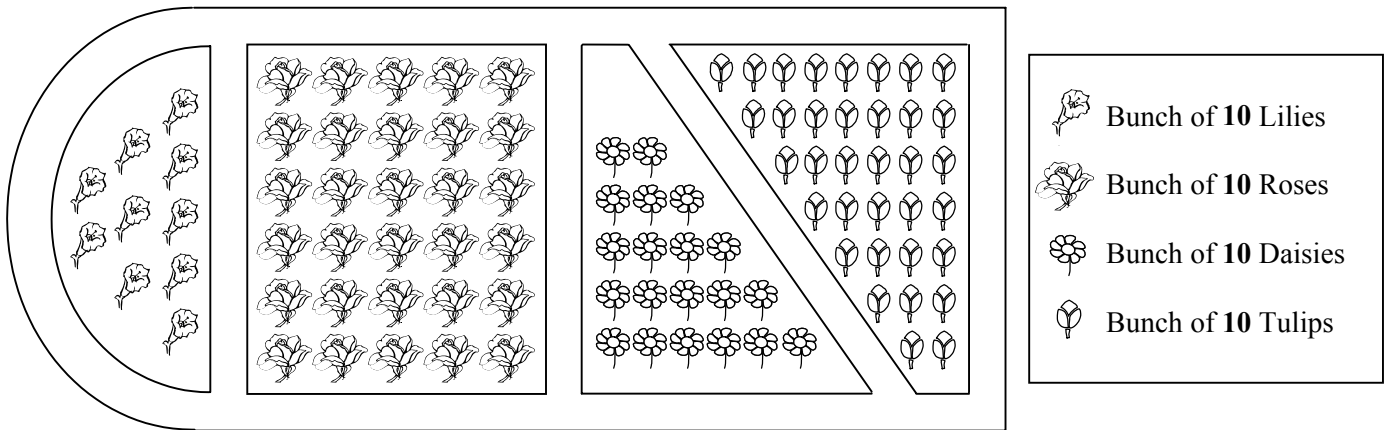
- i) What is the weight of the apples?

_____ kg

- ii) What is the weight of **one** apple?

_____ g

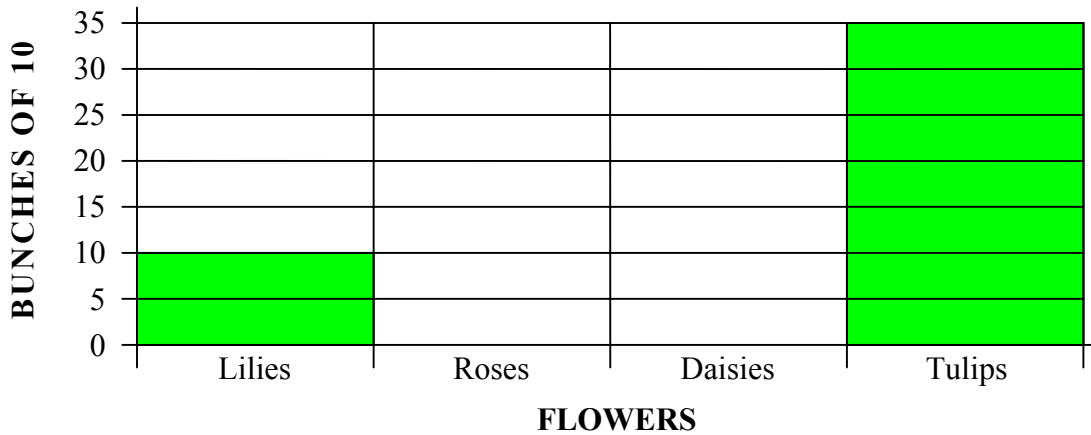
13. This is the plan of a flower garden.



a) Fill in the table to show the number of bunches of flowers in the garden.

Flower	Bunches of 10
Lilies	10
Roses	
Daisies	
Tulips	35
Total	

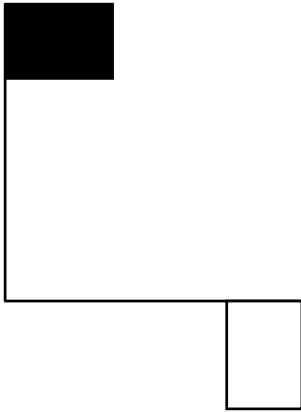
b) Complete the bar chart to show the information in the table.



c) How many **flowers** are there **in all**?

_____ flowers

14.

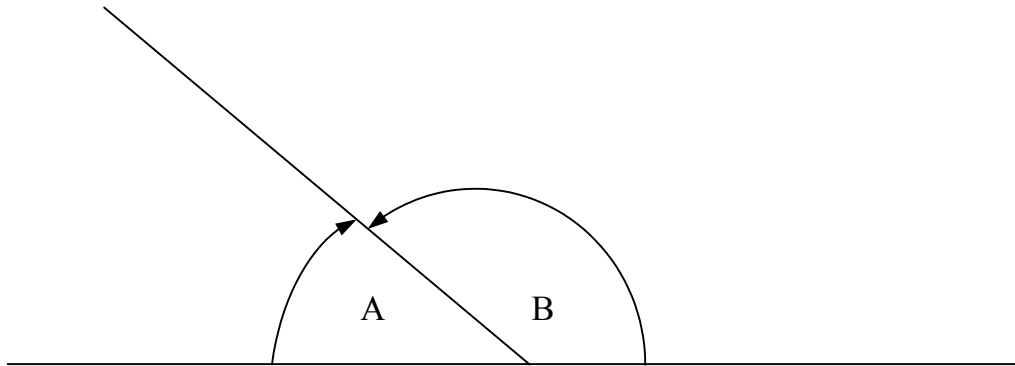


a) The **black** flag is turned **anticlockwise** to the position of the **white** flag.

The **black** flag is turned through

an angle of _____ **degrees** or _____ **right angles**.

b) The diagram shows two angles on a **straight line**.
One angle is **acute**, the other is **obtuse**.



i) Use your **protractor** and measure.

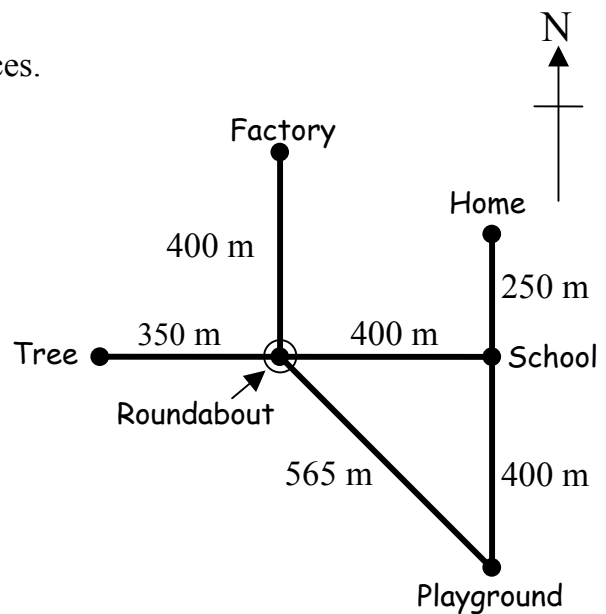
The **acute** angle is _____ °

The **obtuse** angle is _____ °

ii) The **sum** of **angle A** and **angle B** is _____ °

iii) The **sum** of the angles of a shape is **equal** to the **sum** of angle A and angle B.
Use your **ruler** to draw this shape.

15. Mary and Paul live in a town.
The diagram shows some of the roads and places.
Mary and Paul are at the roundabout.



a) Mary is facing the factory.
She turns to face **East**.

She now faces the _____.

She uses the **shortest** route to go home.
Underline the correct answer:

She **first** goes (north, south, east, west),

then she goes (north, south, east, west).

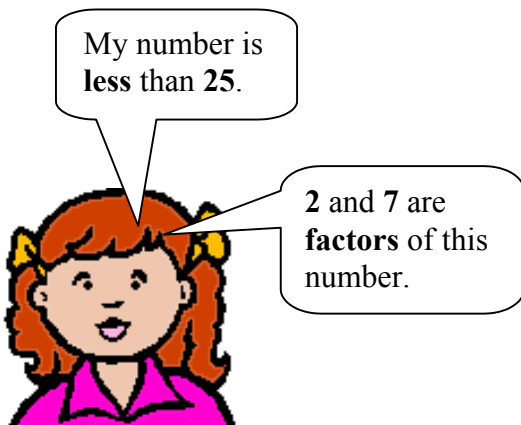
b) Paul can take two ways to go to the playground.
Use compass directions to describe the two ways:

1. _____.
2. _____.

c) Paul is at the playground. Mary is at home.
How **far apart** are Paul and Mary?

metres.

16. a) Mandy thinks of a number.



What is the number?

b) Fill in the empty boxes with two **prime numbers**:

$$7 \times \square \times 2 \times \square = 210$$

c) Write down the prime numbers used in (b).

2	7	□	□
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Use these **four digits** to form the **largest** number.

□	□	□	□
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d) Write the missing **two** numbers in this sequence:

2, 3, 5, 7, 11, _____, _____, 19

17. The table shows the highest temperatures reached during each month in the year 2003.

Month	Temperature in degrees Celsius
January	20
February	16
March	18
April	25
May	29
June	38
July	39
August	37
September	35
October	32
November	28
December	21

a) Which month had the **highest** temperature?

b) Work out the average of the **three highest temperatures**.

_____ degrees Celsius

c) Work out the average of the **three lowest temperatures**.

_____ degrees Celsius

18. **One table and four chairs** cost Lm38.



One table and one chair cost Lm17.



a) Find the cost of **one chair**.

Lm _____

b) Find the cost of **one table**.

Lm _____

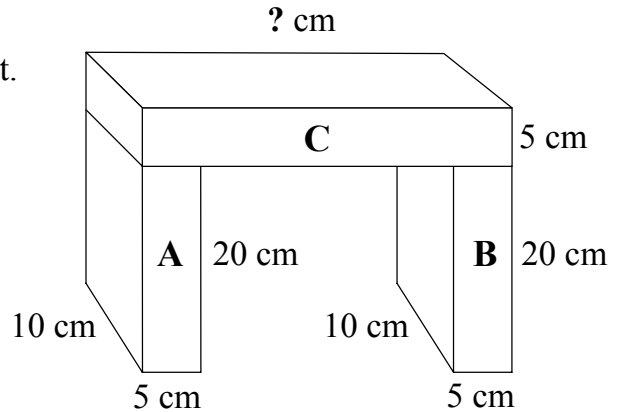
c) Work out the total cost of **two tables and eight chairs**.

Lm _____

19. Gejtu and Josephine visit the Neolithic Temples.

Gejtu makes a model of the entrance.
He uses 3 wooden **cuboids** A, B and C to make it.

Josephine has to find the volumes of A, B and C.
She makes the table below.
The table is not complete.



a) Complete the table for Josephine:

	Answer
Volume of Cuboid A	
Volume of Cuboid B	
Volume of Cuboid C	
Total Volume	3500 cm ³

b) i) **Underline** the correct answer.

The **length** of cuboid **C** is:

25 cm 30 cm 35 cm

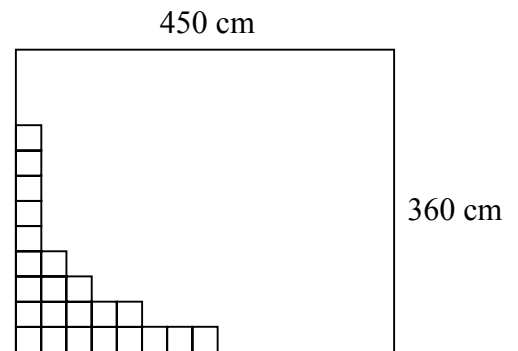
ii) Write down a reason for your answer:

20. The **scale diagram** shows the floor of a room partly covered with tiles.

a) The floor is to be completely covered with **square tiles**.
Each tile is of **side 30 cm**.

How many tiles are needed to cover the whole floor?

_____ tiles.

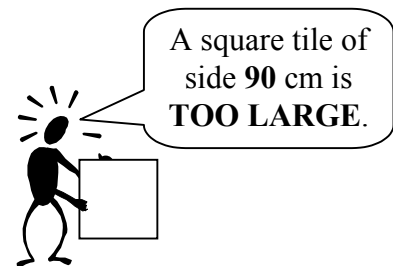


b) A **different** tile size can be used to cover the same floor.

Only **whole square** tiles can be used.

The size of each square tile must be **more** than 30 cm but **less** than 90 cm.

Find the **size** of the tile.



Each tile is of side _____ cm.

END OF PAPER